

NSW Food Safety Supervisor – Learner Resource



Hospitality



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COURSE INFORMATION

ABOUT THIS GUIDE

This learner guide covers two units of competency that is part of the Hospitality Training Package:

SITXFSA005 Use hygienic practices for food safety

SITXFSA006 Participate in safe food handling practices

This program will cover

- Food safety laws and responsibilities in Australia
- Understanding food safety
- Maintaining a clean work place to support food hygiene
- Personal hygiene
- Implementing food safety
- Food safety programs
- Monitoring and controlling food safety

These units apply to all tourism, hospitality and catering organisations with permanent or temporary kitchen premises or smaller food preparation areas.

This includes restaurants, cafes, clubs, hotels, tour operators, attractions, function, event, exhibition and conference caterers, educational institutions, correctional centres, health establishments, defence forces, cafeterias, kiosks, canteens, fast food outlets and residential caterers.

Safe food handling practices are based on an organisation's individual food safety program. The program would normally be based on the Hazard Analysis and Critical Control Points (HACCP) method, but this unit can apply to other food safety systems

This resource also contains modules specific to the NSW Food Safety Supervisor training, as prescribed by the NSW Food Authority. These can be found as an attachment and cover the following:

- NSW FSS Food Act Offences
- COVID Hygiene

ABOUT ASSESSMENT

This guide contains a range of learning activities which support you in developing your competence. To apply this knowledge to your assessment you will be required to complete the assessment tools that are included in your program. The assessment is a competency based assessment, which has no pass or fail; you are either competent or not yet competent. This means that you still are in the process of understanding and acquiring the skills and knowledge required to be marked competent.

For valid and reliable assessment of this unit, a range of assessment methods will be used to assess practical skills and knowledge.

Your assessment will be conducted through a combination of the following methods:

- Third-party reports from a supervisor
- Practical demonstration of your skills in a classroom situation
- Projects and assignments
- Written or verbal questioning to assess knowledge and understanding of business policies and procedures

The assessment tool for this unit should be completed within the specified time period following the delivery of the unit. If you feel you are not yet ready for assessment, discuss this with your trainer.

To be successful in this unit you will need to be able to connect your learning to your work place, this should be achievable for those who are employed and for those who are not employed within a relevant workplace, you will need to discuss with your assessor what will be required in terms of a work placement in order for you to be assessed.

LEARNING OUTCOMES

At the end of this training program you should be able to:

- Follow hygiene procedures
- Identify food hazards
- Recognize and report food hazards
- Recognise, report and act on personal health issues relating to hygiene risk
- Practice correct handwashing procedures, at all time required
- Maintain & appropriate clothing, footwear, uniforms, PPE
- Prevent food contamination
- Report food contamination
- Demonstrate use of safe food handling practices in food handling work functions including safe egg handling
- Demonstrate correct methods of controlling food hazards at each Critical Control Point
- During work activities, demonstrate knowledge of the of food safety standards and codes including HACCP and the ramifications for not adhering to them

Assessment must ensure use of:

- an operational commercial food preparation area or kitchen with the fixtures, large and small equipment and workplace documentation defined in the Assessment Guidelines; this can be a:
 - real industry workplace
 - simulated industry environment such as a training kitchen servicing customers
 - food ingredients and ready to eat food items
- current plain English regulatory documents distributed by the national, state, territory or local government food safety authority
- the Code
- current commercial food safety programs, policies and procedures used for the management of food safety.

You will be provided with more information related to the assessment of this unit in the Assessment Record

TOPIC 1 – FOOD SAFETY LAWS AND RESPONSIBILITIES

FOOD SAFETY LAWS

ACTS AND REGULATIONS

Food hygiene acts, legislation, regulations and enforcement are the responsibility of the health authorities in each state and territory.

There are two main pieces of legislation that you must follow when handling food:

- State Food Acts
- Food Standards Code

The Food Act is the overriding legislation which covers food for human consumption and the general requirements which will ensure food sold to the public will be safe and suitable to eat in each state and territory.



The Food Standards Code provides more detail than the Food Act itself and gives detailed guidance to food service operators. It also sets minimum food safety requirements for food industry sectors which have been identified as higher risk and details food authority licence requirements, notification procedures and auditing requirements.

NATIONAL FOOD SAFETY STANDARDS

The main law on food safety is the Food Standards Australia New Zealand Act 1991. It set up an authority called Food Standards Australia New Zealand. Its Code (The Australia New Zealand Food Standards Code) has a standard for food safety practices and the health and hygiene practices of food handlers. The laws are different in different states, and local councils also make food safety laws.

The food safety standards were developed to provide more effective and nationally uniform food safety legislation for Australia. The following standards are mandatory for all food businesses in Australia and provide the minimum requirements necessary to maintain a safe food supply.

- Standard 3.1.1 – Interpretation and Application
- Standard 3.2.1 – Food Safety Programs
- Standard 3.2.2 – Food Safety Practices and General Requirements
- Standard 3.2.3 – Food Premises and Equipment

These standards have been incorporated into State and Territory law and therefore all food businesses must comply with these standards.

The Australian Food Safety Standard 3.2.2 (*Food Safety Practices and General Requirements*) requires that people who handle food must have the appropriate skills and knowledge for the work they do.

Food handlers need to know:

- How to locate and follow workplace information about their own food handling operations.
- How to identify and correct (or report) situations or procedures that do not meet the business's food safety obligations.
- Who to report food safety issues to within the business.
- Their responsibilities in relation to health and hygiene requirements.

Standard 3.3.2 Food Safety Practices and General Requirements deals with procedures and practices that should be incorporated into a food safety program.

FOOD BUSINESS REQUIREMENTS

There are several requirements which food businesses must undertake. These include:

- the notification of the operation of a food business to the local and state government,
- the nomination of a food safety supervisor,
- implementation of a food safety program,
- allowing inspections of food and premises by qualified environmental health inspectors.

Local council health inspectors may report a food business for unsafe food premises or procedures. All staff who work in the hospitality business must be aware of their individual food handling obligations to keep food safe and protect it from contamination.

ORGANISATIONAL FOOD SAFETY POLICIES & PROCEDURES

All businesses must actively work to promote good personal hygiene of staff and implement everyday work procedures which prevent the growth of microorganisms and limit the opportunity for cross contamination.

The FSANZ standard 3.2.1 requires food businesses to implement a food safety program based upon the HACCP concepts. A food safety program for each business must follow a systematic documented manner:

1. Identify the potential [food safety hazards](#)



2. Identify the means of control of the hazards
3. Monitor the hazards
4. Provide for corrective action
5. Regularly review the program
6. Keep appropriate records.

A food safety program is a written set of procedures and a system of documenting the processes involved in handling, preparing and serving food in the establishment, to ensure compliance and the serving of safe food at all times.

A food safety program can be based on identifying and analysing the food safety hazards which exist in a food service operation, and implementing a simple set of policies and procedures to be followed by food handlers, or it can be a full HACCP (Hazard Analysis Critical Control Point) system in a large organisation. We will cover HACCP later in this Learner Guide.

Each food business must have a documented **food safety program and procedures** to keep food safe. These apply to all service personnel operating at all levels in the wide range of services and hospitality businesses. There are ramifications for failing to follow or implement a food safety program, such as improvement notices or demands from local councils, penalty notices or fines, public listing on the **Food Authority “name and shame” website**.

Neglecting safe food handling procedures can be financially expensive.

- There is the potential for wastage of spoilt food and out of date stock. The business will lose customers and revenue
- There are penalties or fines, imposed for the business and individuals for not complying with the legal requirements regarding food safety
- Individual consumers can suffer significant illness and sometimes death through food poisoning

The consequences and costs of not complying with food safety requirements and implementing food safety procedures are significant for public health, the hospitality and tourism industry sector, and for individual businesses and their employees.

All staff should have a basic understanding of the federal national codes and standards which underpin state regulatory requirements and the NSW government food safety regulations and other government initiatives which impact on food safety compliance.

TOPIC 2 – UNDERSTANDING FOOD SAFETY

WHAT IS FOOD SAFETY?

Food safety is the utilization of various resources and strategies to ensure that all types of foods are properly stored, prepared, and preserved so they are safe for consumption. Practicing this level of food hygiene begins with the purchase or acquisition of different food items and ends with the proper storage of leftovers for future use.

HOW CAN FOOD BE UNSAFE

It is essential that all food handlers, regardless of the size of the business have an understanding of how food can be hazardous what can be done to keep food safe for consumption.

A **food contaminant** is any biological or chemical agent, foreign matter, or other substances that may compromise food safety or suitability

Contamination of food has occurred if any of the contaminants referred to above are present in the food

Biological contaminants are substances produced by living creatures – such as humans, rodents, pests or microorganisms

- Macro biological - Flies & Cockroaches
- Microbiological - Bacterial, Fungus, Viruses, Microscopic Parasitic, Algae
- Pathogens are common to all foods; they originate in the gut of mammals and carried on food and by people and animals



Foreign matter - any kind of outside contaminant introduced to a food product at any point in its production or distribution for example pieces of glass or metal, toothpicks, jewelry, band-aids

Chemical contaminants are any chemical agent “that has the potential to cause illness or injury.

- Chemicals that occur naturally – eg fish toxins, mushroom toxins, mycotoxins, allergens
- Chemicals that you may use in the formulation of your finished product – eg food additives, vitamins and minerals
- Chemicals that are unintentionally or incidentally present in your finished product or packaging – eg pesticides, cleaning chemicals used in the kitchen

Most foodborne illness is caused by pathogenic bacteria or viruses in food.

Other less common foodborne illness occurs from accidental chemical poisoning and natural contaminants.

The most common types of foodborne illness are:

- bacterial eg Salmonella, Campylobacter, E.coli and Listeria
- viral eg Norovirus, Rotavirus and Hepatitis A
- intoxication caused by toxins produced by pathogens such as Staphylococcus aureus, Bacillus cereus and Clostridium perfringens.

Bacteria, viruses and toxins that cause foodborne illness



Bacillus cereus

A bacterium that causes two types of illness: emetic (vomiting) and diarrhoeal



Campylobacter

A bacterium that causes campylobacteriosis



Clostridium perfringens

A bacterium that causes gastroenteritis



Clostridium botulinum

A bacterium that causes botulism



Hepatitis A virus

A virus that causes Hepatitis A



Hepatitis E virus

A virus that causes Hepatitis E



Listeria

A bacterium that causes listeriosis



Norovirus

A group of viruses that cause viral gastroenteritis



Pathogenic E.coli

A bacterium that causes STEC gastroenteritis and haemolytic uraemic syndrome



Salmonella

A bacterium that causes salmonellosis



Shigella

A bacterium that causes shigellosis



Seafood toxins

Toxins that cause amnesic, c, neurotoxic and paralytic shellfish poisoning, and ciguatera and d fish poisoning



Yersinia

A bacterium that causes yersiniosis

Source: <https://www.foodstandards.gov.au/consumer/safety/foodborne-illness/Pages/default.aspx>

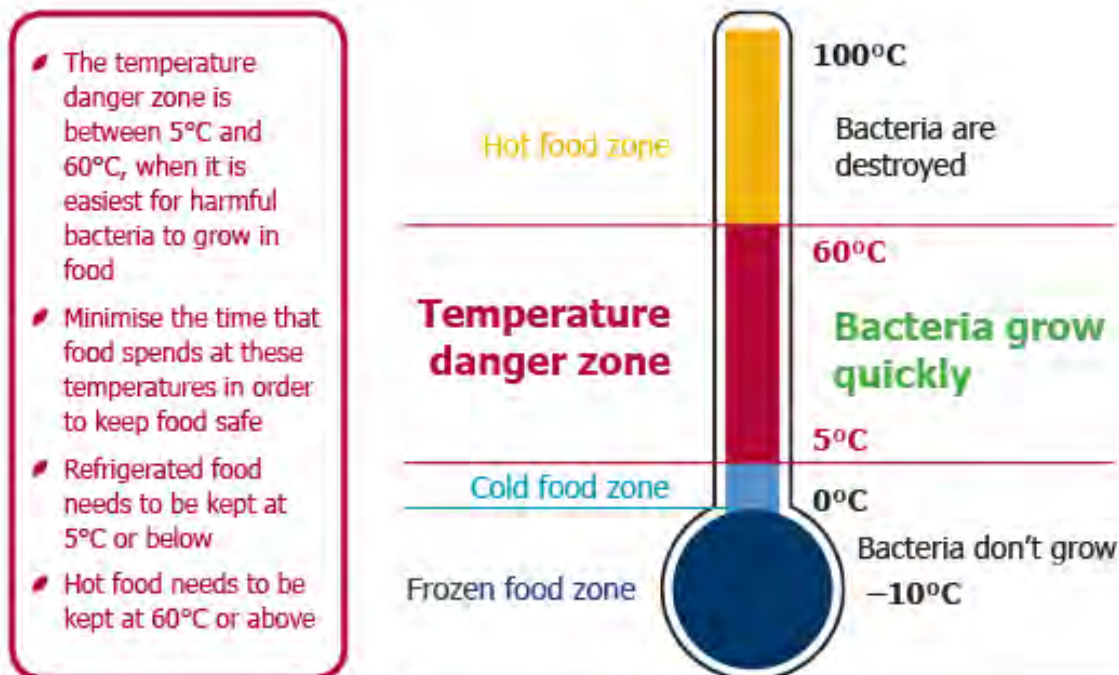
BACTERIAL GROWTH AND THE DANGER ZONE

Bacterial contamination is thought to be the most common cause of food poisoning worldwide

WHAT ARE BACTERIA?

Bacteria are microorganisms that are found on every single exposed surface. It comes in many different forms and has many different side effects. It is a simple thing that can expand at a rapid rate to create a larger problem. Bacteria have a number of certain elements that will excel in their growth. These are:

- Time – in ideal conditions one single bacterium can multiply to 2,097,152 within 7 hours.
- Temperature – bacteria is best grown between 5°C - 60°C. This is known as the danger zone
- Note: If you freeze food or go colder than 5°C it may not kill the bacteria but only slows its growth. Some bacteria can survive up to a year at -20°C
- Nutrients – most foods are a good source for bacterial growth
- Water – without water bacteria may slow growth or stop completely, that's why dried foods don't spoil
- Light
- PH – the correct measure of acidity or alkalinity



In the right conditions, bacteria double their numbers every 20 minutes. For example, if a piece of kangaroo meat infected with 100 food poisoning bacteria is left lying on a kitchen bench on a warm day, the bacteria will double their number every 20 minutes, and in 3 hours, the 100 bacteria will multiply to over 50,000 bacteria.



It is important to note that once inside a person's intestine the bacteria can continue to multiply. This means that a person may eat contaminated food having only a few bacteria on it, but eventually suffer from food poisoning.

FOOD POISONING

Food poisoning occurs between 1 and 72 hours after consuming the contaminated food or drink. Symptoms may include:

- Stomach pain
- Cramps
- Nausea
- Vomiting
- Fever
- Headache
- Diarrhoea



Viruses, bacteria, parasites and moulds can contaminate food and cause people to become ill, these include:

- **Salmonella** – one of the most common food borne diseases, symptoms include - Diarrhoea, fever, abdominal cramps, headache
- **Gastroenteritis** – inflammation of the stomach and intestine, symptoms include - Nausea, abdominal cramps, vomiting, diarrhoea, headache, fatigue, fever, muscle aches
- **E.Coli** – thrives in the intestinal tracks of humans, symptoms include - nausea, severe abdominal cramps, watery or very bloody diarrhoea, fatigue
- **Botulism** - A serious but rare illness, symptoms include – double vision, drooping eyelids, slurred speech, dry mouth and difficulty swallowing, weak muscles
- **Shigellosis** – intestinal infection, symptoms include – fever, tiredness, watery or bloody diarrhoea, nausea and vomiting, abdominal pains
- **Hepatitis A** – acute inflammation of the liver, symptoms include – jaundice, fatigue, abdominal pain, nausea and vomiting, diarrhoea, fever, loss of appetite, dark urine

Vulnerable Groups

People most susceptible to food poisoning are:

- Elderly persons
- Children and babies
- People with medical conditions
- People with low immunity
- People with allergies[#]
- Pregnant women



Allergen management will be covered in more detail later in this resource

People who prepare and handle food must be aware of the hazards and risks involved, the sources of food contamination, and follow procedures in the workplace which prevent foods from becoming contaminated and causing harm to the consumer.

So what can us, as food handlers do in the prevention of food poisoning?



We can take a few simple steps and these are:

- Always maintain personal hygiene
- Keep the kitchen clean
- Handle food safely
- Cook high-risk food thoroughly
- Keep hot food hot and cold food cold

TOPIC 3 – PERSONAL HYGIENE

Personal hygiene is not only for self-presentation but it also plays a key role in maintaining hygienic food handling techniques.

Some of the key points to remember are:

- Wear clean clothes, including aprons
- Food preparation clothes are not worn to the place of work, but changed into at the place of work
- Hair is tied back and a hat or hair net is covering any stray bits of hair
- Wear disposable gloves and use tongs
- Protective clothing must not be worn outside the food preparation area
- Tissues are preferable to hankies and dispose of them immediately after use
- Shower and wash hair regularly
- Change gloves whenever you change activities and do not touch surfaces, equipment or parts of the body while wearing them
- Do not cough spit or sneeze on or near food
- Change preparation gloves whenever you change activities
- Remove items from pockets because they may fall into the food

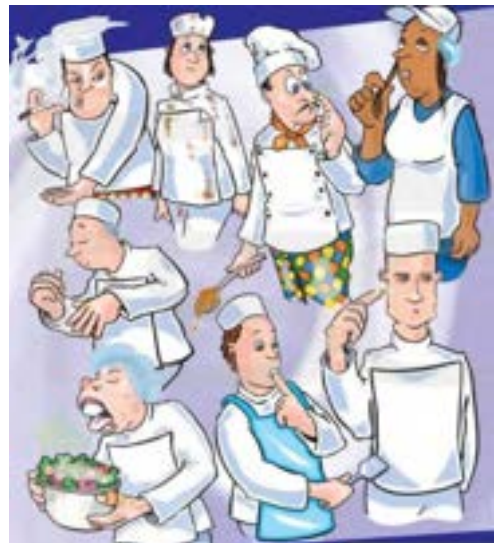


UNHYGIENIC PERSONAL CONTACT

Poor personal hygiene is one of the leading causes of reported foodborne illness and should be one of the foundational pillars of your food safety program.

Bad personal habits to avoid when working with food:

- Scratching
- Licking fingers
- Picking of the nose or ears
- Touching open cuts or sores
- Wiping hands on clothing
- Smoking
- Spitting
- Blowing into bags that food is to be placed in
- Touching hair
- Touching parts of the body while handling food



Every one of these activities contaminates the fingers with bacteria. If the person's hands are not washed before handling food again, these bacteria will be passed to the food.



Rubbing the nose while preparing food helps spread germs

Sneezing or coughing near food. If a food handler, or anyone else, sneezes or coughs near uncovered food, then the food will almost certainly be sprayed with bacteria laden droplets. Sneezing over food spreads germs.



Licking fingers while handling food. Human saliva carries staphylococcus bacteria and licking the fingers could result in these bacteria being passed to the food. Licking fingers while handling food spreads germs.

One of the most important factors to remember is that you minimise the direct contact you have with ready to eat food. As the food has already been cooked it is more susceptible to contamination as there is no further cooking involved. If you contaminate the food your customer then eats it and they can become sick. So always limit the amount of contact you have with ready to eat food so you can protect your customer's health and well-being.

ITEMS THAT HARBOUR CONTAMINANTS

On every person there are items that you wear that can harbour bacteria and contaminants. These include:

- Rings
- Earrings
- Watches
- Band-Aids
- Dirty clothes



- Hair
- Caps
- Nose and facial rings
- Jewellery

In a food handling area these things should be kept to a minimum:

- All jewellery should be removed whilst working with food as food can get stuck under rings and in the stones etc... And can fall into food
- Caps should be washed regularly to remove skin cells and sweat
- Hair should always be tied up and in a hair net or cap
- Clothes should not be worn to and from work as germs and bacteria can be picked up along the way and transferred to the food or food surfaces
- Band-Aids should be changed regularly and should be waterproof to prevent contamination. Band-Aids should be a blue colour.



In all cases a little thought and following procedures in your workplace should prevent the contamination of food and thus the illness of staff and customers.



PREVENT CROSS CONTAMINATION BY WASHING HANDS

Correct hand washing techniques are one of the simplest ways of preventing contamination. Unfortunately it often gets overlooked.

CORRECT PROCEDURE FOR WASHING HANDS

Washing your hands may seem a simple task but there is more to it than people realise.

When washing hands there is a procedure that will ensure you have washed all bacteria away:

1. Wet hands with warm water
2. Use enough soap to provide a generous lather
3. Work the lather between your fingers and around the nails making sure every area of the hand is properly lathered and scrubbed
4. Rinsing hands with warm water, wash from the tips of your fingers down to the wrist, this allows the fingers to be as clean as possible. This should be done for 30 seconds. (Singing Happy Birthday 3 times is a good gauge for 30 seconds)
5. Dry hands well using disposable paper towel or air dryer

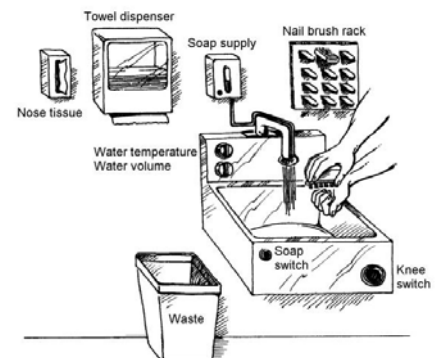


When should you wash your hands?

- Upon entering a food service area
- Before and after handling food
- Immediately after handling raw food
- Immediately after
 - smoking
 - coughing, sneezing or blowing your nose
 - eating or drinking
 - touching rubbish
 - going to the toilet
 - touching any part of your body
 - using cleaning products or chemicals
 - using point of sale terminals

Appropriate hand washing facilities must be designed, constructed and located so that:

- There is no likelihood that they will cause food contamination
- They are able to be easily and effectively cleaned
- The adjacent floors, walls and ceilings and other surfaces are able to be easily and effectively cleaned
- They do not provide harbourage for pests
- They have taps with sensors to activate water flow
- Soap dispensers are close to the tap
- Paper towel or hand dryers are close by
- Disposal container for paper towel in easy reach



AIRBORNE AND INFECTIOUS DISEASE

Airborne sources of diseases and contaminants are those where the bacteria, virus, parasites, or other contaminants are able to travel large distances through the air on dust particles or, more commonly, through droplets from the respiratory system of people.

Once these airborne sources come into contact with another surface, such as a bench, food item, or person, they will settle in and start to grow. It is for this reason that food must stay covered in storage, and why you shouldn't be working around food if you are unwell.

Any illness that is caused by the spread of microorganisms, bacteria, viruses, etc. are known as infectious diseases. They are called this because they have the ability to spread and infect many people quickly and easily.

When you are ill you have a responsibility to customers, clients and staff to ensure you **do not** handle food. Handling food whilst ill may cause many others to fall ill as well.

It is your duty not to contaminate food and surfaces to prevent passing on infectious diseases to other people.

For example:

- If you are coughing or sneezing you must either remove yourself from the food preparation area or stay at home
- If you have an infection in a cut or abrasion you must cover it with a water tight bandage before entering the food preparation area.
- If you have a contagious disease you must stay at home. For example flu, gastroenteritis etc...

.....you must provide your workplace with a clearance prior to returning to work.

TOPIC 4 – IMPLEMENTING FOOD SAFETY

Now that we have ascertained how foods can become contaminated, we are going to look specifically at measures relating to food preparation and storage.

FOOD STORAGE - GENERAL

There are a number of requirements for food storage that are common to all types of storage, these include:

- Ensuring that all surfaces such as walls, floors, ceilings and shelves are thoroughly cleaned
- Storing food in original packaging, sealable containers or coverings to protect the food from contamination
- Ensuring that storage containers are food grade and not damaged.
- Do not store food on the floor. Food may become contaminated, and the floor cannot be thoroughly cleaned
- Checking for, and removing, any food that is beyond its **Use by date** or food showing signs of spoilage
- Rotating stock, using the F.I.F.O (First In, First Out) principle or by Use by dates.
- Dating and labelling foods not in their original packaging so that all food handlers know the contents and age of the food

TEMPERATURE CONTROL REQUIREMENTS

Do the temperature control requirements apply to my business? **YES**

The temperature control requirements apply to all types of food businesses that handle or sell potentially hazardous foods. The types of businesses that handle or sell potentially hazardous foods include restaurants, take-away, clubs, supermarkets and caterers, whether the food is sold to the public, privately, for profit or to raise funds for a charity or community group.

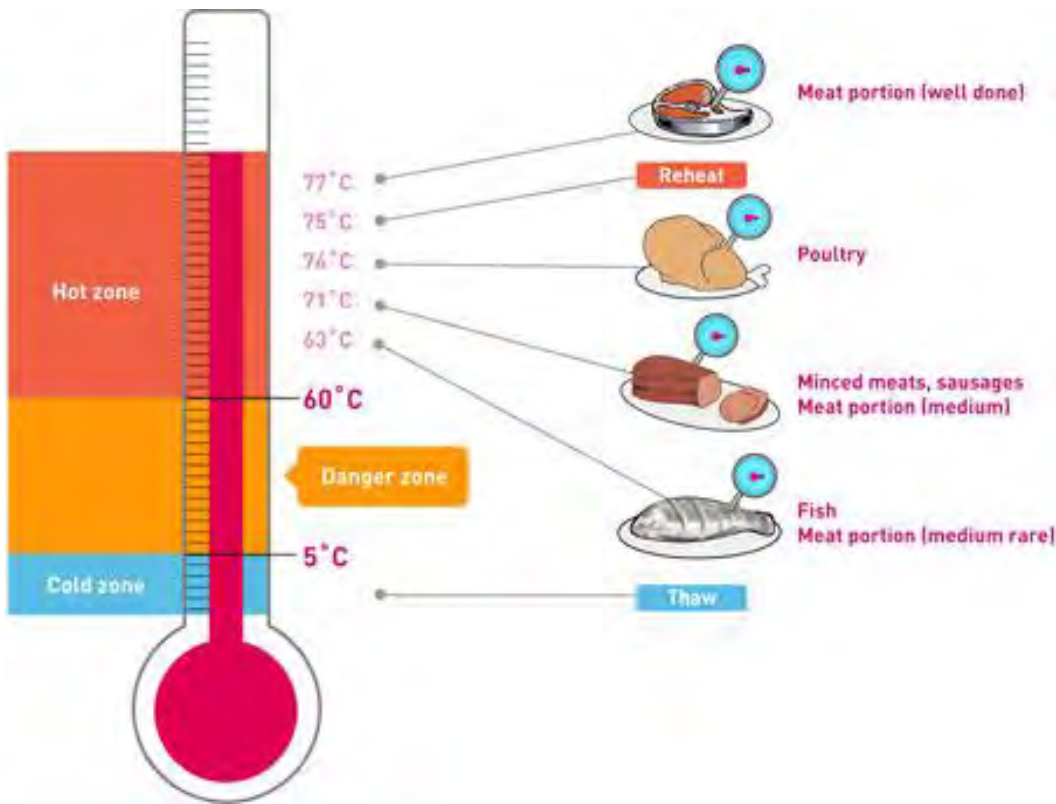
They include businesses that use mobile premises such as vans and temporary structures such as market stalls, as well as businesses operating from home.

WHAT IS TEMPERATURE CONTROL?

The danger zone is a key temperature rule anyone handling food should know about. It is the measure of temperature at which bacteria thrives, between 5°C - 60°C.

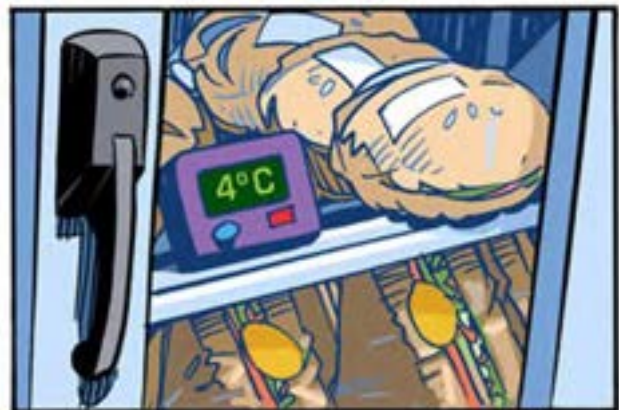
There are also temperatures at which food is best stored and served, as these temperatures are outside of the danger zone and can vary depending on the type of storage that is required.

To ensure that food stays safe, you are legally required to ensure that potentially hazardous foods are kept either very cold (5°C or colder) or very hot (60°C or hotter) or at another temperature if that is safe



Some foods must be kept below 5°C to prevent the growth of certain food-poisoning bacteria. It is advisable to store food at the storage temperature recommended by the manufacturer of the food.

By keeping food very cold (5°C or colder) or very hot (60°C or hotter) you can stop food-poisoning bacteria from multiplying in the food or producing poisons (known as toxins). To comply with the Standard you must keep potentially hazardous foods at these temperatures unless you can show that the time the food is at another temperature is safe. Safe alternative temperature control systems are explained later.



It is safe for food to be between 5°C and 60°C for a **limited time** only, for example, while it is being prepared, because food-poisoning bacteria need time to start multiplying and to multiply to unsafe numbers.

Temperature control means maintaining food at a temperature of:

- 5°C, or below if this is necessary to minimise the growth of infectious or toxigenic micro-organisms in the food so that the microbiological safety of the food will not be adversely affected for the time the food is at that temperature
- 60°C or above
- Another temperature—if the food business demonstrates that maintenance of the food at this temperature for the period of time for which it will be so maintained will not adversely affect the microbiological safety of the food

ARE THERE TEMPERATURE REQUIREMENTS FOR FROZEN FOODS?

Yes—you are required to ensure that potentially hazardous frozen foods that you want to keep frozen are:

- Frozen when they are delivered to you
- Kept frozen when you store, display for sale or transport the food

A specific temperature for frozen food has not been specified because as long as the food is kept frozen it will remain safe. However, the temperature may be important to maintain the quality of the product and storage directions on labels or provided by the manufacturer should be followed.

WHEN MUST I KEEP FOOD UNDER TEMPERATURE CONTROL?

The Standard requires you to ensure that the temperature of potentially hazardous food is 5°C or colder or 60°C or hotter (or at another temperature if that is safe) when you:

- Receive the potentially hazardous food into your business
- Store, display and transport potentially hazardous food

‘Store’ means any time when you are not receiving, preparing, processing, displaying or transporting food. For example, a container of food on a bench top is being ‘stored’ on that bench top. You must ensure that the time that food is at room temperature (that is, between 5°C and 60°C) is kept as short as possible to minimise the opportunity for bacteria to multiply.

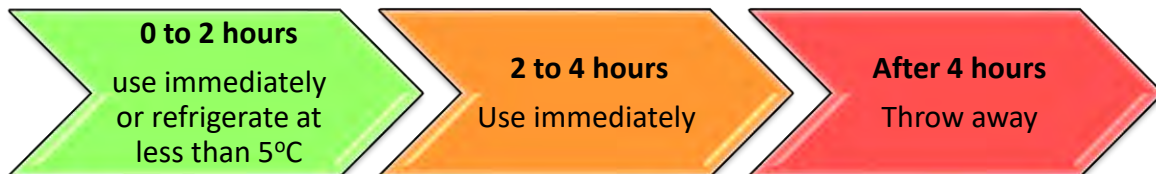
Keep the preparation time as short as possible when you are preparing ready-to-eat foods such as sandwiches. This is because these foods will not be further processed to reduce bacteria to safe levels or destroy any toxins that may form.

INTRODUCING THE 4-HOUR/2-HOUR RULE:

Studies have shown that food can be safely held out of temperature control for short periods of time without significantly increasing the risk of food poisoning.

The time for which food can be safely held between 5°C and 60°C is commonly referred to as the '4-hour/2-hour rule' and is applied as follows:

Total time food is between 5°C and 60°C



'Use immediately' means that the food must be sold within that 2-hour period, or else cooked or processed to reduce or eliminate any pathogenic bacteria present in the food.

RULE IS APPLIED AS FOLLOWS:



Food which has been in the temperature danger zone for less than 2 hours (preparation + storage + display) can be returned to the refrigerator at or below 5°C or heated to above 60°C and brought out again at a later time. However, the **total time** in the temperature danger zone must not be longer than 4 hours. Whatever system you choose to use, you must be able to demonstrate what you have done.

Note that the times that food is at room temperature during preparation, storage, display and transport must be added together to give a total time. The four hours includes any time that the food has been out of temperature control during preparation, storage, display and transport.

Do not include the time taken to cool cooked food as long as it is within the guidelines above (2 hours to 21°C then 4 hours to 5°C).

The 2 hour/4 hour guide will work even on a very warm day because it is based on multiplication of bacteria at 40°C. However, it is best practice to avoid keeping potentially hazardous food at room temperature whenever possible. Instead keep it chilled or keep it hot.

If you decide to keep potentially hazardous food at room temperature, it must be for very short time periods and, as with any food preparation, it is important to follow these essential food safety practices:

- Do not contaminate the food—you and your staff must prepare it hygienically and protect it from contamination
- Cool cooked foods quickly and within the legally required times and temperatures
- Ensure your cool rooms and refrigerators are working effectively

To demonstrate that the 4-hour/2-hour rule is being applied correctly, you will need to:

- ensure the Food Standards Code requirements are followed for potentially hazardous food and ingredients during: – receipt, – storage, and – preparation.
- ensure cold foods are not displayed in direct sunlight or at temperatures above 25°C, as this will allow bacteria to quickly increase in numbers
- implement a documented system for: – monitoring the length of time food is displayed out of temperature control, – ensuring the food is appropriately identified, and – ensuring food is disposed of appropriately after 4 hours

REMEMBER that those food-poisoning bacteria that need large numbers to cause illness take a number of hours to multiply sufficiently to make the food unsafe. However, you **cannot see the food-poisoning bacteria** multiplying so the **appearance of the food, its taste or its smell does not indicate whether the food is safe to eat.**

AN EXAMPLE OF THE 2 HOUR/4 HOUR GUIDE IN USE

Sandwiches are made at a café each morning for display at lunchtime to supplement the sandwiches that are made to order. They are not refrigerated. The business develops work instructions for staff based on the 2 hour/4 hour guide.

These work instructions indicate that the sandwiches must be prepared between 7.00 a.m. and 8.00 a.m. and placed in the cool room. They must not be put on display before 11.00 a.m. and any sandwiches remaining unsold at 2.00 p.m. must be discarded. When the business is inspected, the enforcement officer is shown a copy of the work instructions and notes that at 10.30 a.m. the sandwiches are in the cool room as set out in the instructions.

MONITOR FOOD TEMPERATURE DURING PREPARATION USING REQUIRED TEMPERATURE MEASURING DEVICE TO ACHIEVE MICROBIOLOGICAL SAFETY

HOW DO I MEASURE THE TEMPERATURE OF FOOD?

You will need a thermometer that can measure the **internal** temperature of food because the surface temperature may be warmer or cooler than the temperature of the rest of the food. This means that you will need a thermometer with a probe that can be inserted into the food.

Steps

1. Determine the warmest area of a cool-room or the coldest area of a hot display unit.
2. Insert the clean, dry probe into the food.
3. Remember that temperature readings are not instant - wait until the temperature has stabilised before reading.
4. Stabilise the thermometer between measuring hot and cold foods by allowing the thermometer to come back to room temperature.
5. If the food is packaged or frozen, place the length of the probe between two packages of the food.

Remember that the temperature at the centre of food may be different from the surface temperature. For example, when cooked food is being cooled in the refrigerator, the centre of the food will take the longest to cool. Therefore, when checking the temperature of this food, make sure that you check the centre.

Accuracy of Thermometer

The thermometer must also be accurate to $\pm 1^{\circ}\text{C}$. This means that when the thermometer shows that the food is at a temperature of 5°C , the actual temperature of the food will be between 4°C and 6°C .

Check that your thermometer is accurate by placing the probe in a container of crushed ice that is just melting. The thermometer should read 0°C within 1°C , which is, between -1°C and $+1^{\circ}\text{C}$. If it does not, then it needs checking by the manufacturer.

- If both readings are the below -1°C or above 1°C the thermometer will need to be sent to the supplier for repair or replace. If sent to the supplier another thermometer will need to be used while the inaccurate one is being repaired
- If the ice has completely melted extra ice needs to be added before taking a reading



Step 1: Fill a cup with crushed ice and add just enough water to barely float the ice.



Step 2: Place the stem of the thermometer in the ice and water mixture, making sure the stem doesn't touch the sides or the bottom of the cup. Wait until the reading is steady (stops moving).



Step 3: Read the temperature. If the thermometer is not reading at 0°C (32°F), adjust the thermometer in the ice water. If your thermometer has a calibration nut, use a small wrench or other tool and turn the nut until the temperature reads 0°C (32°F).

Remember to clean and sanitise the thermometer before inserting it into food. Wash the probe in warm water and detergent, sanitise according to the sanitiser instructions or the instructions that accompany your thermometer, and allow the probe to air dry or thoroughly dry it with a disposable towel.

The Food Safety Standards require you to have a thermometer if you handle potentially hazardous foods. The thermometer must be kept at your food premises.

FOOD STORAGE – SPECIFIC FOOD TYPES

THE STORAGE OF HOT FOOD

Hot food should be cooked and held above 60°C which is outside the danger zone until serving. When cooling hot food down for cold storage it should be cooled for no longer than 1 hour on the bench then it must be refrigerated immediately to bring the temperature down as quickly as possible to minimise time in the danger zone.



Apply the 2/hour 4/hour rule – 60°C to 21°C in a maximum of two hours and from 21°C to 5°C within a further maximum period of four hours

If it is a large quantity of food that you are trying to cool food, break it down into smaller portions so it becomes easier to bring the temperature down. While the cooling process is happening it is best to stir the product to allow even cooling and a quicker cool down period.

When you are reheating a hot product from cold it must be reheated to above 60°C as quickly as possible. Remember when using bain-marie equipment ensure the temperature is above 60°C **before** placing food into it.

THE STORAGE OF COLD FOOD



Some food needs to be kept in the fridge to help stop bacteria from growing on it, such as food with a 'use by' date, cooked food and ready-to-eat food such as desserts and cooked meats.

MAKE SURE YOUR FRIDGE IS COLD ENOUGH

You need to make sure your fridge is cold enough otherwise food poisoning bacteria will still be able to grow. Your fridge should be between 0°C and 5°C.

If you're not sure how the temperature setting or dial works on your fridge, you could use a fridge thermometer to check it's the right temperature.

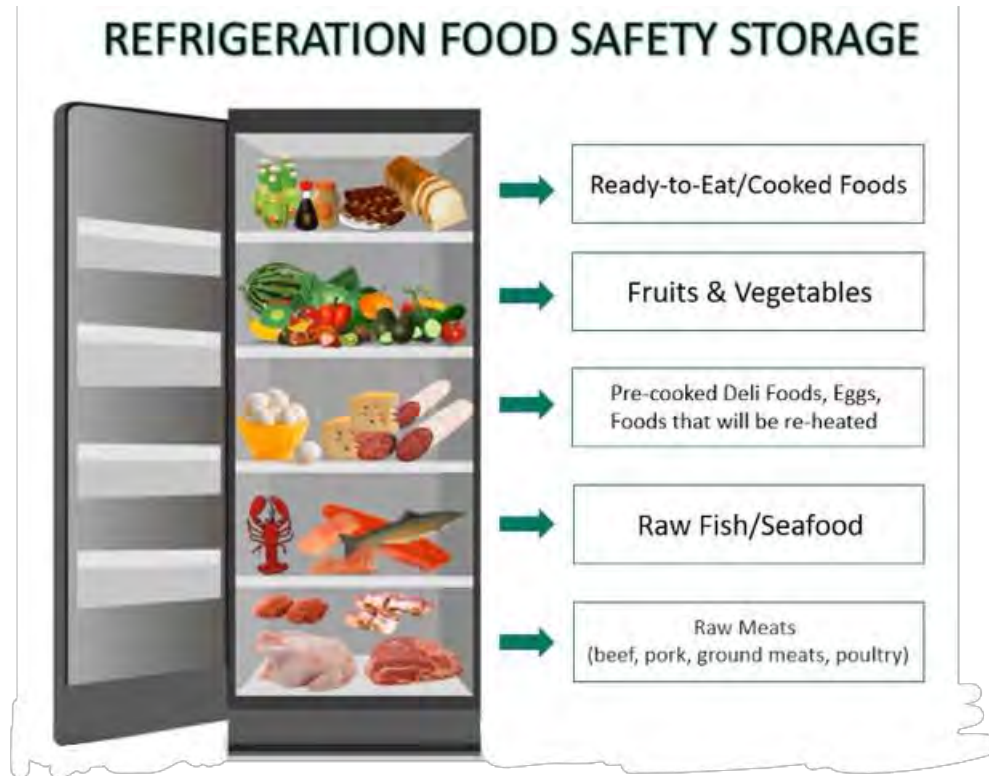
Here are a few other fridge tips that you might find useful:

- keep the fridge door closed as much as possible
- wait for food to cool down before you put it in the fridge
- if your fridge is full, turn the temperature down to help keep it cold enough

KEEPING FOOD IN THE FRIDGE

To help stop bacteria from growing, remember:

- When the label says 'keep refrigerated', make sure you do keep the food in the fridge. If the food isn't labelled with any storage instructions and it's a type of food that goes off quickly, you should put it in the fridge and eat it within two days
- Some jars and bottles need to be kept in the fridge once they've been opened. Always check the label and follow any storage instructions
- Pre-prepped food must be kept in the fridge until it is going to be eaten/served
- Cool leftovers as quickly as possible (ideally within one to two hours) and then store them in the fridge. Eat any leftovers within two days, except for cooked rice, which you should eat within one day to help avoid food poisoning



STORING MEAT

It's especially important to store meat safely to stop bacteria from spreading and to avoid food poisoning. You should:

- Store raw meat and poultry in clean, sealed containers on the **bottom** shelf of the fridge, so they can't touch or drip onto other food
- Follow any storage instructions on the label and don't eat meat after its 'use by' date
- Cooked meat and that is not going to be eaten straight away, must be cooled as quickly as possible and then put it in the fridge or freezer. Remember to keep cooked meat separate from raw meat



KEEPING FOOD IN THE FREEZER

The freezer is a great tool for making sure you've always got some food in stock and for helping to avoid wasting food.

You can keep food safely in the freezer for years, in theory, as long as it has stayed frozen the whole time. However, the taste and texture of food changes if it's frozen for too long, so you might well find that it's not very nice to eat.



Check any instructions on food labels or in your freezer's handbook to see how long food should be frozen.

For safety, it's OK to freeze most raw or cooked foods providing you do the following things:

- Freeze it before the 'use by' date
- Follow any freezing or thawing instructions on the label
- Thaw it in the fridge so that it doesn't get too warm. Or, if you intend to cook it as soon as it's defrosted, you could defrost it in a microwave
- Try to use it within one to two days after it's been defrosted – it will go off in the same way as if it were fresh
- Cook food until it's steaming hot all the way through

When frozen meat and fish (and some other foods) thaw, lots of liquid can come out of them. If you're defrosting raw meat or fish, this liquid will spread bacteria to any food, plates or surfaces that it touches. Keep the meat and fish in a sealed container at the bottom of the fridge, so that it can't touch or drip onto other foods.

Always clean plates, utensils, surfaces and hands thoroughly, after they have touched raw or thawing meat, to stop bacteria from spreading.

If you defrost raw meat or fish and then cook it thoroughly, you can freeze it again, but remember never reheat foods more than once and.....

Never refreeze food that has been thawed!!!

DRY STORAGE

Key golden rule is keep canned and dry foods dry. A good way to keep them dry and safe is to place them in food-grade, air-tight containers or canisters. Ensure that all containers are truly airtight and undamaged before using them. Tips:

- Label and date all dry goods.
- Measure and record temperature regularly.
- Keep all goods in clean wrappers and containers. In most cases, wrap products in moisture proof and air-tight materials.
- Do not store foods taken from their original containers in galvanized (zinc-coated) containers such as garbage cans. In addition, food should not be stored in enamelware, which may chip.
- Once opened, foods should not be stored in metal containers (unless made of stainless steel), due to potential leaching out of metals and other potential toxicants. Foods may be stored in food-grade plastic or glass containers.



Here are some tips:

- Try to keep food in sealed bags or containers. This helps to keep them fresh and stops anything falling into the food by accident
- Don't store food or drinks near cleaning products or other chemicals
- Don't use old food containers to store chemicals, and don't store food in containers that have been used for other purposes
- Only reuse plastic water bottles if they're not damaged and you can clean them
- Don't store food on the floor, because this can encourage mice, ants and other pests and makes it difficult to clean the floor properly
- Keep the storage area dry and not too warm
- Remember that some types of food might need to be kept in the fridge once you've opened them – follow any storage instructions on the label

HIGH RISK FOODS

When we talk about high-risk foods we are talking about foods that can spoil easily or become contaminated when not handled properly. These are referred to in the Standards as “potentially hazardous foods”. In Standard 3.2.2 potentially hazardous food is defined as:

“food that has to be kept at certain temperatures to minimise the growth of any pathogenic microorganisms that may be present in the food or to prevent the formation of toxins in the food. Potentially hazardous foods are also referred to as ‘temperature control for safety (TCS) foods’”

Food-poisoning bacteria can grow and multiply on some types of food more easily than others. These foods include:

- Raw and cooked meat, including poultry such as chicken and turkey, and foods containing these, such as casseroles, curries and lasagne
- Dairy products, such as custard and dairy based desserts like custard tarts and cheesecake
- Eggs and egg products, such as quiche
- Raw egg products such as mayonnaise, tiramisu, steak tartare
- Smallgoods such as hams and salamis
- Seafood, such as seafood salad, patties, fish balls, stews containing seafood and fish stock
- Cooked rice and pasta
- Prepared salads like coleslaws, pasta salads and rice salads.
- Prepared fruit salads
- Ready to eat foods, including sandwiches, rolls, and pizza that contain any of the food above

Correct procedures must be followed at all times when handling these foods.

Food that comes in packages, cans and jars can become high-risk foods once opened, and should be handled and stored correctly.

High-Risk Foods



SAFE EGG HANDLING

The below information has been extracted from NSW Food Authority Food Safety Supervisor Learner Guide "Safe Egg Handling" July 2020 © State of NSW through the NSW Food Authority, 2020

OVERVIEW

The purpose of this section is to provide skills and knowledge to select, store, handle and prepare eggs and egg products safely.

As a Food Safety Supervisor (FSS), it is your responsibility to ensure that you and your work colleagues/staff always maintain safe food handling practices when using and storing eggs and egg products.

It is also important that you understand what could happen if you do not maintain high levels of food safety awareness and practices, when using or selling eggs and egg products.

Every person who works with food, including those who sell food products, has both a legal and a moral responsibility to protect those who eat the food. This is called a 'duty of care'.

All food handlers and their supervisors need to understand and use preventive measures, rather than trying to fix a problem after it has occurred.

Introduction

Salmonella poisoning is a very real risk when storing and using raw eggs and egg products. Products with raw eggs have been responsible for some of the largest foodborne illness outbreaks. This is because the disease-causing microorganism *Salmonella* may be found on the shell surfaces of whole eggs which then contaminate the food.

It is vital that workers who use, handle, or sell raw eggs and egg products are aware that there are some people in the community who are particularly vulnerable to serious illness (and even death) caused by the consumption of contaminated raw eggs, including children, the elderly and pregnant women.



KEY FACTORS IN RAW EGG PURCHASING, STORAGE AND USE

There are several key factors to be aware of and to understand when working with raw eggs and raw egg products:

1. Look for an alternative to raw eggs in a product that you intend to sell. For example, making a Tiramisu without eggs, or cooking the egg (a sabayon) before adding to the mascarpone. If preparing an aioli, use a commercial mayonnaise product as a base
2. Use a safer alternative to raw eggs such as pasteurised egg products or acidify raw egg products
3. Ensure all acidified egg products (i.e. products like mayonnaise that have acid-based ingredients such as vinegar) are at pH 4.2 or below and stored for no longer than 24 hours
4. If it is not possible to substitute raw egg in a product, know your supplier (i.e. only buy from a reputable supplier, keep a copy of supplier documents for your records)
5. Assess all eggs (i.e. do not buy cracked, dirty or unstamped eggs)
6. Practice safe storage of eggs prior to use.
7. Know and understand how to handle eggs and to process raw eggs safely
8. Know the post-process shelf life of products made using raw eggs

HANDLING EGGS AND EGG PRODUCTS SAFELY

Eggs are the product of female birds (e.g. ducks and chickens). Eggs are formed inside the bird and then laid through the cloaca. The cloaca is also used by birds to expel urine and poo. This means the surface of eggshells can easily become contaminated as they are laid by the bird. This contamination risk means food handlers should always treat eggs like any other raw meat product.

The following practices are essential for the safe handling of raw eggs and egg products:

- Ensure that eggs received are not cracked or dirty and that they are correctly labelled, stamped and supplied in clean packaging
- If eggs delivered to a food business are not correctly labelled, stamped or they are cracked or dirty, the person responsible for receiving goods should refuse to accept the eggs
- Businesses must keep a record of the business name and business address of the supplier of the eggs and/or egg product, and be able to provide it to an authorised officer if asked
- Eggs should be stored under controlled temperature (i.e. in the fridge at 5°C or below) to maintain freshness

Watch the video: Egg safety: a practical demonstration for food retailers and consumers produced by the NSW Food Authority

<https://www.youtube.com/watch?v=GWiu2tY4Oto>

Learning Activity: 1

List 3 things you should always check for when you receive eggs from a supplier.

1. _____
2. _____
3. _____

GUIDELINES FOR RAW EGG PRODUCTS

Several food items use raw eggs in their production; however, it is safest not to serve any raw egg products, due to the high risk of food-borne illness. Regardless of whether your business serves raw egg products, it is essential to handle eggs like any other raw meat product during food preparation.

Consider these factors when planning to make, store, or sell raw egg products:

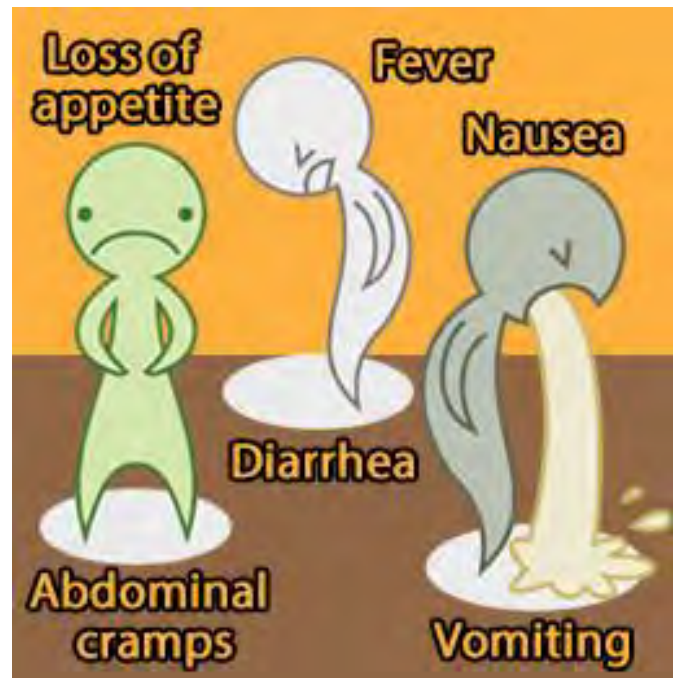
- Use pasteurised egg products instead (i.e. avoid making and serving raw egg products)
- The NSW Food Authority's Guidelines for safe preparation of raw egg products
- Extra processes are required for the safe handling of foods containing raw egg
- Know and understand the safest possible process for handling raw egg products

NOTE: The safest option for a business is to avoid making raw egg products altogether.

THE DANGERS OF SALMONELLA POISONING

Salmonella is a family of bacteria commonly found in the environment. It is associated with birds and is usually transmitted to humans by eating undercooked chicken meat and eggs.

Salmonella poisoning is a serious illness that can affect large numbers of people when contaminated foods are consumed. It also has serious implications for those businesses affected and for the food handling staff involved.



Learning Activity: 2

Watch the UK salmonella food safety video below, then read the articles that highlight the dangerous risks associated with the storage and consumption of unsafe raw egg products and partially cooked egg products.

<https://www.food.gov.uk/safety-hygiene/salmonella>

Brisbane woman's death linked to Salmonella outbreak on Melbourne Cup day.

ABC News, 15 Nov 2013

Queensland health authorities are investigating an outbreak of food poisoning that may have contributed to a woman's death and sickened 220 other people.

Ms Grace says their catering on Melbourne Cup day included fresh mayonnaise made by the company's chefs with eggs purchased from a usually reputable supplier.

Read the full article <https://www.abc.net.au/news/2019-09-19/behind-the-scenes-of-a-salmonella-outbreak/11512218>

Salmonella spike in SA attributed to dirty eggs, recent trend of partially cooking raw food

Updated 13 Mar 2015, 4:57pm

SA Health has issued a warning about foods containing raw and partially cooked eggs after a recent spike in salmonella cases.

There have been 329 reported cases in South Australia this year so far, compared to 252 at the same time last year.

To read the full article click on the link below.

<http://www.abc.net.au/news/2015-03-13/dirty-raw--eggs-cause-salmonella-spike-in->

List below 3 key messages you can take away from reading these news items. Discuss your responses with another student or colleague.

1. _____
2. _____
3. _____

Learning Activity: 3

Circle the correct answer True or False

Only the elderly and young children are susceptible to <i>Salmonella</i> poisoning	True/False
Foods with raw eggs are high risk for <i>Salmonella</i> poisoning	True/False
It is important not to use or sell raw eggs that are cracked or dirty	True/False
Partially cooked eggs and egg-based products are not likely to cause <i>Salmonella</i> poisoning	True/False
Good personal hygiene of food handling staff is an important factor in reducing (but not eliminating) the risk of <i>Salmonella</i> poisoning	True/False

HIGH RISK PRODUCTS THAT CONTAIN RAW EGGS

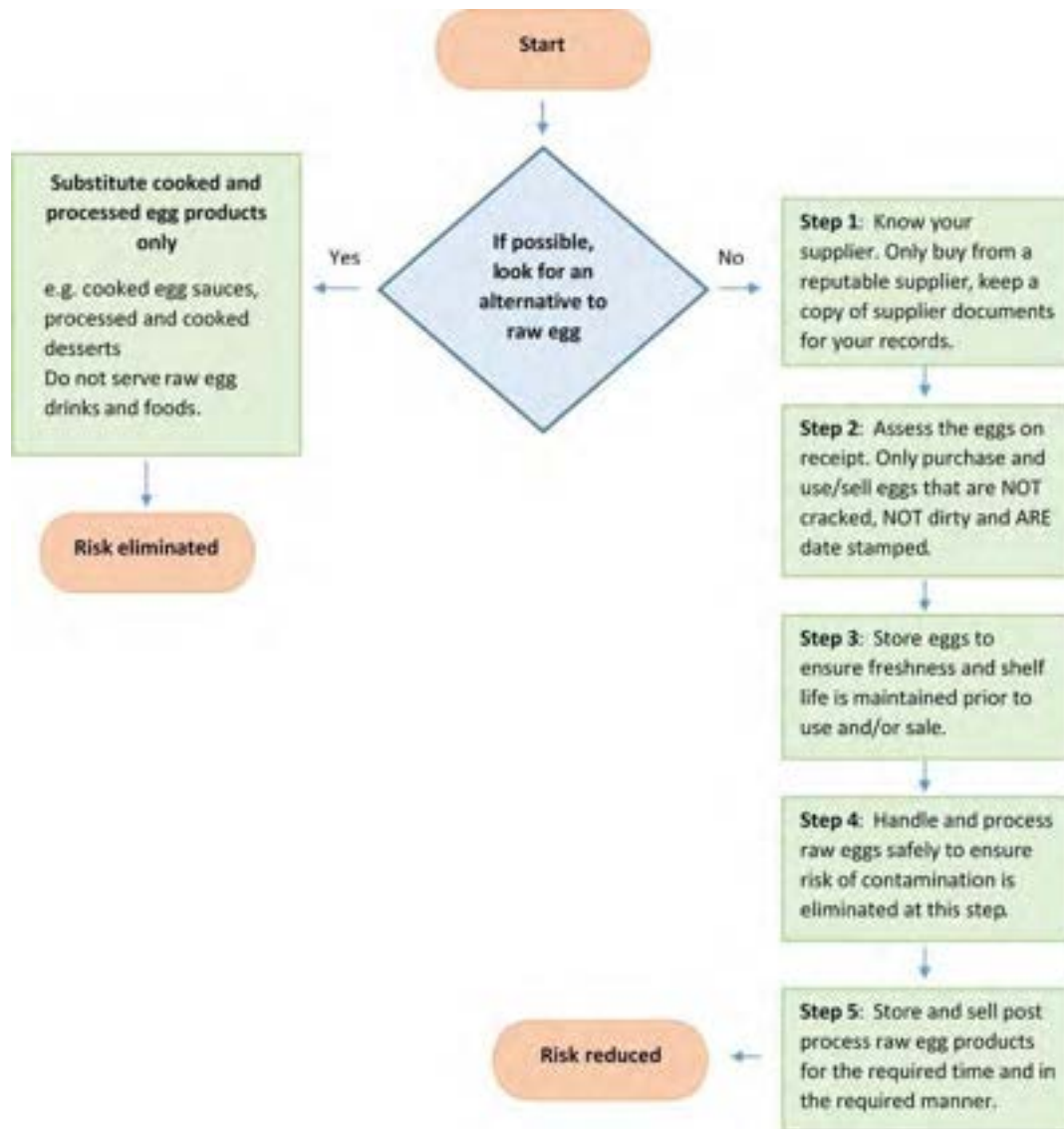
As the previous articles clearly demonstrate, raw eggs are considered very high-risk foods. Products containing raw eggs have been directly linked to Salmonella poisoning.

The highest risk raw egg products are:

- Sauces and spreads made with raw egg – e.g. mayonnaise, garlic aioli
- Desserts made without an effective cook step – e.g. tiramisu, mousse, fried ice cream
- Drinks containing raw egg – e.g. eggnog, egg flip, raw egg high protein shake.

REDUCING OR ELIMINATING RISKS ASSOCIATED WITH RAW EGGS

The risks associated with raw eggs can be eliminated or reduced by following a series of control steps as outlined in the flowchart on the next page.



An explanation of the requirements for each of the risk reduction steps in the Flowchart is detailed below:

Step 1

Check your supplier by following these guidelines:

- Supplier provides contact details – check the details are correct by calling the phone numbers provided, check the address is both real and the business is located at that address, send an email using the address given to verify it is legitimate. If the business is legitimate, they will be happy to both provide information you require and to respond to your contact
- Keep a record of the goods supplied so you can trace the product and/or check the supplier if required.

Step 2

Receiving good quality, safe products is a major step in reducing the risk. When you receive and store eggs you should ensure the following practices are followed:

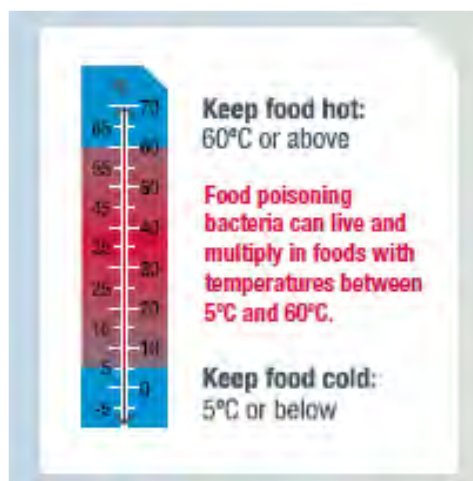
- Only accept clean eggs
- Only accept eggs that are not cracked, broken or leaking
- Only accept eggs that are in clean packaging
- Only accept eggs that are individually stamped with a unique identifier (for traceability purposes)
- Only accept eggs that are within the use by/best before date
- Only accept eggs that are labelled correctly (supplier's name, address, lot identification and date marking).

Step 3

Good storage of eggs is critical to risk management.

Storage requirements and good stock management for eggs and pasteurised eggs products are the same as for all food products:

- Rotate stock to use oldest stock first
- Use eggs within the best before date or egg products within the use by or best before date (whatever is appropriate).
- Store at the required temperature, between 0oC and 5oC. Storage areas need to be temperature checked using a calibrated thermometer
- If stock is out of date, damaged or has been stored outside of the required temperature, separate the stock from the good stock, label as unfit for use and dispose of the stock as soon as possible
- Do not wash eggs or handle wet eggs.



Link to image: http://www.foodsafety.asn.au/wp-content/uploads/2012/02/NewcrookPoster_A2.pdf

Step 4

Making and selling of raw egg products introduces the opportunity for cross-contamination to occur.

Cross-contamination is the transfer of microorganisms from raw or contaminated food and equipment to cooked or prepared food.



Unclean equipment and food handling are two high risk activities, and the biggest cause of cross contamination.

Good personal hygiene, cleaning and sanitising and good storage practices reduce the risks.

Link to image: http://photos.state.gov/libraries/cyprus/164241/USAID_FoodEng_Oct2010/USAID_Food_Oct2010_07.jpg

The following are all considered good practice:

Good personal hygiene includes (but is not limited to):

- [Washing hands](#) using best practice method, before and after handling eggs
- Wearing and changing gloves according to workplace policy and procedures; discard after handling eggs once
- Not working when contaminated, i.e. when you have a contagious illness or food related illness or have an infection that can cause cross-contamination
- Wearing clean clothes and appropriate personal protective equipment (PPE) such as; gloves, hair nets, aprons, etc. as defined by workplace procedures.

Click on the highlighted link above to watch the video on Hand washing.

Good cleaning and sanitising practice includes:

- All food preparation surfaces and utensils must be cleaned and sanitised according to workplace procedures before and after processing egg products
- Use a sanitised egg separator to separate egg yolks from whites. DO NOT use eggshells as shells may contain traces of Salmonella
- Utensils must be in good condition and able to be cleaned and sanitised.

Preparing raw egg products such as mousses, mayonnaise and protein shakes

The NSW Food Authority has developed [guidelines](#) to assist businesses manage risks when working with raw egg products:

- Prepare raw egg mixtures and products to meet customer demands i.e. make small batches regularly
- Ensure all acidified egg products (i.e. products that have acid-based ingredients such as vinegar e.g. mayonnaise) are at pH 4.2 or below and stored for no longer than 24 hours. This information must be measured and recorded.
- pH is a measure of acidity of a product.
- Non-acidified product (i.e. products with raw eggs - without vinegar, such as raw egg smoothie) must be prepared as ready-to-eat foods and served immediately.

Steps for measuring pH

The pH of a raw egg product can be measured using a pH meter, pH strips or pH paper, as follows:

1. Once the raw egg product has been prepared, place a small sample (1/4 Cup) in a clean container.
2. Dip the pH paper/strip directly into the raw egg product and compare with the colour chart (for pH meters follow the manufacturer's instructions).
3. Record the pH on the Raw egg product acidification check sheet (see page 13 of the Guidelines)
4. If the pH is more than 4.2, add more vinegar and mix, then take another pH reading.
5. Continue adding vinegar until pH is less than 4.2. If extra vinegar is needed, raw egg recipes should be revised to account for the extra vinegar required.



Learning activity: 4

For each of the raw egg products listed below, list a product that could be used as an alternative, which does not contain raw eggs.

Raw egg product	Alternative product
Mayonnaise	
Garlic aioli	
Tiramisu	
Raspberry Mousse dessert	
Raw egg protein shake	

Step 5

Safe storage and handling of product made from raw egg is ensured through effective time and temperature control. See information at link below:

https://www.foodauthority.nsw.gov.au/sites/default/files/Documents/retailfactsheets/4_hour_2_hour_rule.pdf

Recording and reporting this information is required to ensure any product made and sold can be traced if required.

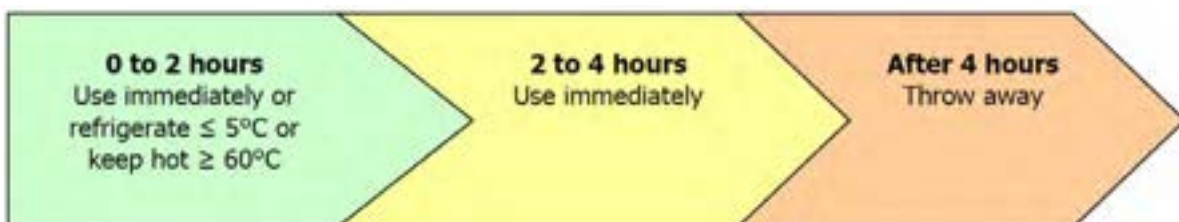
Packaged products must be labelled with:

- Product name and all ingredients
- Use-by/best before date must be written clearly and on all packaged products
- Storage requirements for product safety

If any raw product is held above 5°C for any period of time the 4 hour/2 hour rule applies:

That is, any ready-to-eat potentially hazardous food, if held at temperatures between 5°C and 60°C:

- for a total of less than 2 hours, must be refrigerated or used immediately
- for a total of longer than 2 hours but less than 4 hours, must be used immediately; or
- for a total of 4 hours or longer, must be thrown out.



This information must be recorded according to workplace procedures.

- Foods which have been contaminated and not safe to eat or sell, must be disposed of as soon as possible so that they do not contaminate other food.

From the information in this Learner Guide you can see that the only guaranteed method of eliminating *Salmonella* poisoning from raw egg products is to substitute with a cooked/pasteurised egg product.

By strictly following the critical steps 1 to 5, you can keep your business, your staff and your consumer's food safe.

RISKS TO THE FOOD HANDLER AND THE CONSUMER

Contamination of food that causes harmful diseases is a prime concern of the food industry.

REMEMBER: You as the food handler are also at high risk of contracting food poisoning from contaminated food. If you are contaminated without knowing it, you are then putting your customers at risk.

It is your responsibility to keep yourself, your staff/colleagues and consumers safe by practising food safety skills in the selection, storage, handling and processing of raw eggs and egg products.

It is also vital that good hygiene is practised by all staff, to reduce the risk of contamination for themselves and for the consumer.

REFERENCES

Guidelines for the preparation of raw egg products NSW Food Authority

https://www.foodauthority.nsw.gov.au/sites/default/files/Documents/retail/raw_egg_guidelines.pdf

Egg safety: a practical demonstration for food retailers and consumers NSW Food Authority

<https://www.youtube.com/watch?v=GWiu2tY4Oto>

Hand washing fact sheet NSW Food Authority

https://www.foodauthority.nsw.gov.au/sites/default/files/Documents/retailfactsheets/hand_washing_food_businesses.pdf

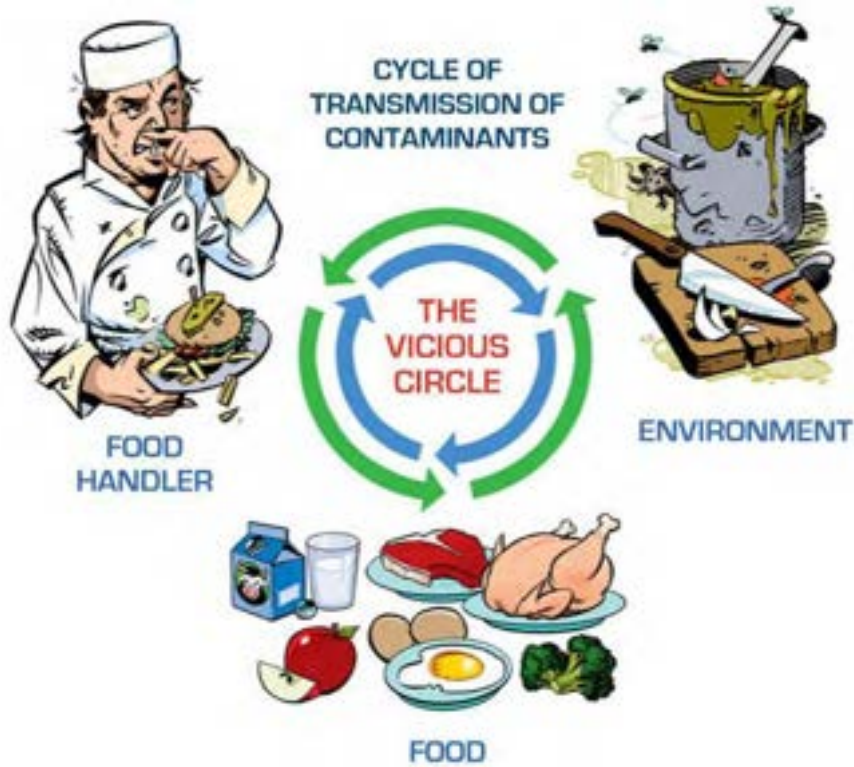
4 Hour/2 Hour Rule

https://www.foodauthority.nsw.gov.au/sites/default/files/Documents/retailfactsheets/hand_washing_food_businesses.pdf

CROSS-CONTAMINATION

Cross contamination occurs when harmful bacteria are transferred from contaminated food to uncontaminated food.

HOW DOES CROSS CONTAMINATION OCCUR?



- By Direct Cross Contamination – contact between raw food and ready-to-eat food during transport, storage or preparation
- By Indirect Cross Contamination - spread of bacteria from raw food to ready-to-eat food via food handlers, equipment or surfaces. For example, indirect cross contamination can occur via refrigerator door handles, knives, chopping boards, work surfaces, chefs' cloths or cleaning cloths



WHY IS IT IMPORTANT TO PREVENT CROSS CONTAMINATION?

Cross contamination has frequently been found to be the cause of food poisoning outbreaks.

Bacteria in contaminated food are not visible to the naked eye and do not cause noticeable food spoilage or affect taste, smell or texture.

Importantly, ready-to-eat food must be protected from cross contamination at all times. This is because there are no further controls to protect your customers from the risk of food poisoning, once contamination has taken place

WHICH FOODS PROVIDE THE MAIN SOURCES OF CROSS CONTAMINATION?

The following raw foods or ingredients present a potential source of cross contamination and should be handled with care:

- Raw meat such as beef, pork, lamb, chicken, turkey and game
- Other raw foods such as fish, shellfish
- Raw eggs (which like uncooked poultry are a source of the salmonella bacteria) are another common cause of cross contamination.
- Vegetables and fruit that have not been labelled as ready-to-eat and especially vegetables that are visibly dirty

Cross-contamination should never happen however, there are several reasons why it does:

- Lack of education and or training
- Laziness
- Time constraints
- Staff not caring about their work

There are many ways that cross-contamination can occur. It can sometimes simply occur by:

- Using a chopping board for more than one raw product.
- Not washing hands properly or frequently
- Using utensils for more than 1 product
- Sneezing on food or surfaces
- Using a tea towel to dry dishes
- Food being stored in incorrect containers
- Wearing dirty clothing



An example of cross contamination during storage is:

- A high-risk food, such as a raw chicken thawing in a refrigerator, is placed in contact with cooked meat. The bacterium from the raw chicken contaminates the cooked meat. Since the cooked meat is not heated again before eating, the bacteria from the chicken pass to the person who eats the meat.

An example of cross contamination during handling is:

- Before cooking fish which is contaminated with salmonella bacteria, a person uses a knife and cutting board to cut it up. Bacteria from the fish will be left on the knife and cutting board. The person slices cooked ham using the same knife and board without washing them first. The bacteria are transferred to the ham.

Cross-contamination can be avoided when people follow correct procedures for example: once you have finished using one product clean down the work area, use a new chopping board, wash your hands thoroughly and dry them well.

Bacteria are hitchhikers.



SINGLE USE ITEMS

These include items that should be used only once. The Standard requires the business to make sure that single-use items':

- Do not contaminate food
- Do not pass on any illness
- Are not reused

The main ways to make sure that food is kept safe using single-use items includes:

- Protecting the single use item with packaging or a container
- Using dispensers that will allow only the customer who will use the single use item to touch it
- Storing the single use item away from chemicals, in food storage areas
- Throw away the single-use item if it has been used, damaged, touched or in any way contaminated

Single use items are things made to only be used one time once used they are to be thrown away.

Examples of single use items are:

- Disposable cutlery, e.g. Plastic or wooden spoons or stirrers
- Disposable plates, mugs, cups and bowls
- Individually packaged sugars
- Individually packaged condiments, e.g. Tomato sauce
- Individually packaged jams and spreads
- Individually packaged serves of coffee, tea and milk
- face wipes and serviettes
- Disposable gloves
- Takeaway containers



FOLLOW INSTRUCTIONS FOR ITEMS INTENDED FOR SINGLE USE

A single-use item is defined and means instrument, apparatus, utensil or other thing intended by the manufacturer to be used only once in connection with food handling, and includes disposable gloves.

Other items included are drinking straws, disposable eating and drinking utensils, plastic containers for selling takeaway food, cardboard boxes for pizzas and other disposable wrappers or packaging materials used in contact with food.

Standard 3.2.2 Australia New Zealand Food Authority Safe Food Australia section 23, deals with single use items.

The definition of “single use item” refers to items that the manufacturer intends to be used only once. There may be items that a food business considers can be reused but if this is not the manufacturer’s intention, these items cannot be reused in contact with food or the mouth of a person.



For some single-use items it may be obvious that the item is intended by the manufacturer to be used only once. This fact may be evident from information provided with the item. It may also be evident from the nature of the item. For example, plastic drinking straws are not intended to be reused. If it is unclear whether or not an item can be reused in contact with food or the mouth of a person, advice should be sought from the manufacturer or supplier of the item

A FOOD BUSINESS MUST:

(a) Take all practicable measures to ensure that single use items do not come into contact with food or the mouth of a person if they are:

- (i) Contaminated (eg visibly unclean); or
- (ii) Reasonably suspected of being contaminated - eg
 - The contact surface of the item is handled by a customer and placed back for use by another customer
 - The items are being stored together and in some of the items there is evidence of vermin contamination —it is therefore reasonable to suspect that all of these items have become contaminated (unless the items were separately protected from contamination)
 - The item is dropped on the floor
 - The outer protective packaging has been damaged

(b) In relation to single use items that are intended to come into contact with food or the mouth of a person:

- (i) Take all practicable measures to protect them from the likelihood of contamination until use; and
- (ii) Not reuse such items

Practical measures that can be taken include:

- Enclosing the item in protective packaging or a container;
- Placing the item in a dispensing container if a customer is to access it, provided that the dispensing container enables only the customer to handle the item he or she is to use;
- Storing the item away from chemicals; and
- Storing the item in an area that is sealed from insects and rodents, for example a food storage area



Single-use items must not be reused as these items have not been manufactured to permit effective cleaning and sanitising. If these items are reused, food coming into contact with these items may become contaminated or diseases may be transmitted from person to person.

Single-use items provided to customers for use cannot be reused by the food business —they may however be reused by customers. For example, customers may reuse plastic takeaway containers in their homes. Customers may also refill disposable cups with drink at a self-service drink unit.



Disposable gloves may be used for one task only. Once a glove is removed from a hand, it must not be reused. Disposable gloves must be changed between handling raw and ready-to-eat food. The same disposable gloves must never be used to handle raw food and then ready-to-eat food.

Food businesses may reuse single-use items for uses that do not involve contact with food or the mouth of a person. For example, used storage containers could be reused to collect soiled cutlery.

TOPIC 5 – ALLERGEN MANAGEMENT

The below information has been extracted from NSW Food Authority Food Safety Supervisor Learner Guide “Allergen Management” July 2020 © State of NSW through the NSW Food Authority, 2020

OVERVIEW

Food allergies are a serious health and safety risk and are becoming more common. It is critical that the Food Safety Supervisor (FSS) and all food handlers working in a food business understand their obligation to know what ingredients are in the food products that they handle, make, or sell.

Any food may contain an allergen. It is vital that the business and FSS ensure procedures and training are put in place that provide guidance for food service staff so they understand their obligations to declare known allergens in food when a customer asks.

The service of an allergen to a person who is sensitive to it can lead to serious health consequences, including death.

Food businesses are accountable for knowing the presence of allergens in foods they sell. Ignorance is not an excuse, nor a defence. This applies whether the food sold is packaged or unpackaged.

INTRODUCTION

The instances of allergic reactions to various foods have increased dramatically in the past few decades. The Food Standards Code legally requires ten common allergens to be declared, but there are many other foods that can cause allergic reactions.

FATAL REACTIONS TO FOOD ALLERGIES

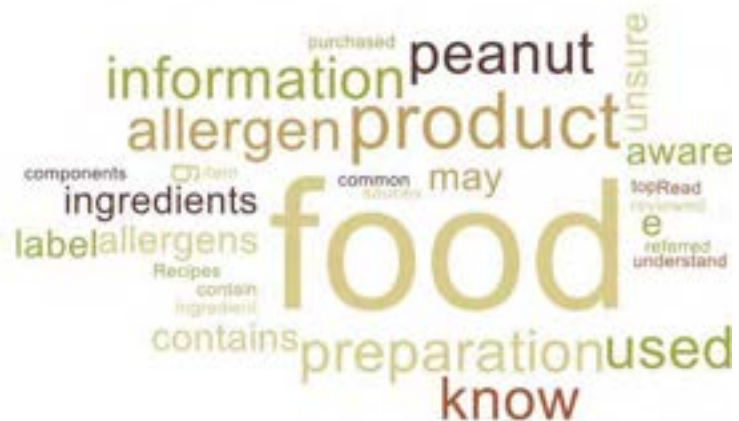
People with food allergies react differently. Some people have a reaction that presents as a rash or hives, others may suffer swelling or dizziness, which can affect their breathing. Anaphylactic reactions can occur almost instantaneously in persons who are sensitive to allergens, and in severe cases, death will occur if the allergic reaction can't be treated quickly. Regardless of sensitivity, there is no safe level of exposure for individuals with an allergy.

KEY MESSAGES TO UNDERSTANDING FOOD ALLERGENS

The main factors to understand about food allergens are described below. These will be explained in more detail in the following sections:

1. Always treat an allergy request seriously.
2. Any food may contain an allergen. Once a customer informs of an allergy it is the businesses legal responsibility to prepare food that doesn't contain the allergen or notify the customer they cannot guarantee the customer food that does not contain the allergen.

3. There are ten common allergens. These contribute to over 90% of food allergies and are legally required to be declared on labels.
4. Review recipes, ingredients and food components such as premade sauces, checking if they contain allergens.
5. Read the label on all ingredients used in food preparation. If a premade food item or ingredient does not have a label it should not be used unless you have documentation listing all ingredients.
6. Be allergy aware during food preparation. Allergens may be introduced through cross contamination between allergenic and non-allergenic ingredients (e.g. peanut oils used to fry non-peanut containing food, may introduce traces of peanut into food).
7. Cross contamination during preparation mostly occurs through the following ways:
 - Food to food – such as touching or dripping.
 - Food to hand - unhygienic handling by cooking staff, front service staff.
 - Food to equipment - sharing of utensils.
8. Be aware of business responsibilities about communicating allergen information:
 - If the product contains an allergen, you must let the consumer know by labelling the food product or telling them this is the case, when they ask.
 - If you can't guarantee a customer an allergen free meal, you must notify the customer.
9. Allergens are an important food safety risk. Heavy penalties, including prosecution and criminal conviction may apply to businesses complicit in customers experiencing allergic reactions from their food.



Learning activity: 1

The following recent examples demonstrate the serious consequences of allergic reactions to food and how widespread this condition is across different demographics. You can follow the links to read more about the food allergies involved. Pay special attention to how easily very small amounts of allergens can cause fatal reactions, even where medical responses are immediate.

Sam Collins, 19, died from an allergic reaction after eating at a local restaurant. [Full Story](#)

Joanna Salamingo-Fontaine, 30, died after eating a dessert ball with cashew milk. [Full Story](#)

Raffi Pownal, 3, died after being served 'free from dairy' chocolate bar. He had a severe milk allergy. [Full Story](#)

Justin Mathews, 33, died after being exposed to walnuts during sandblasting. [Full Story](#)

Nainika Tikoo, 9, died after eating pancakes topped with blackberries. [Full Story](#) & [Full Story](#)

Alexi Staffor, 15, died after eating a food containing yogurt. She had a dairy allergy. [Full Story](#)

Alastair Watson, 3, suffered an anaphylactic reaction during a baked milk challenge. [Full Story](#)

Amanda Thompson, 50, died after having an allergic reaction to a Sorbet. [Full Story](#)

<https://www.theguardian.com/uk-news/2019/may/03/paramedic-treated-boy-cheese-allergy-panicked-inquest-london>

<http://nonutsmomsgroup.weebly.com/blog/remembering-those-we-have-lost-to-food-allergies>

Read at least two of the articles listed in the box on the previous page. List below two key messages you can take away from these articles about allergen management. Discuss your responses with another student or colleague.

ALLERGIES AND FOOD INTOLERANCES

You need to be aware of and understand the differences between allergies and food intolerances, as they develop and present differently to one another.

Allergies

A food allergy is an immune response by the body to a protein that the body 'thinks' is harmful. There is no cure for a food allergy. The only way to prevent an allergic reaction is to avoid eating the food containing the protein.



"Ingested toxins, mutated proteins, acid foods... they could be symptoms of a severe peanut allergy."

The body can react in many ways to an allergen such as; developing hives, swelling, pain, vomiting, difficulty breathing, dizziness and collapse. The symptoms can be fatal. **There is no safe limit for exposure to an allergen.**

Allergies are different from food intolerances.

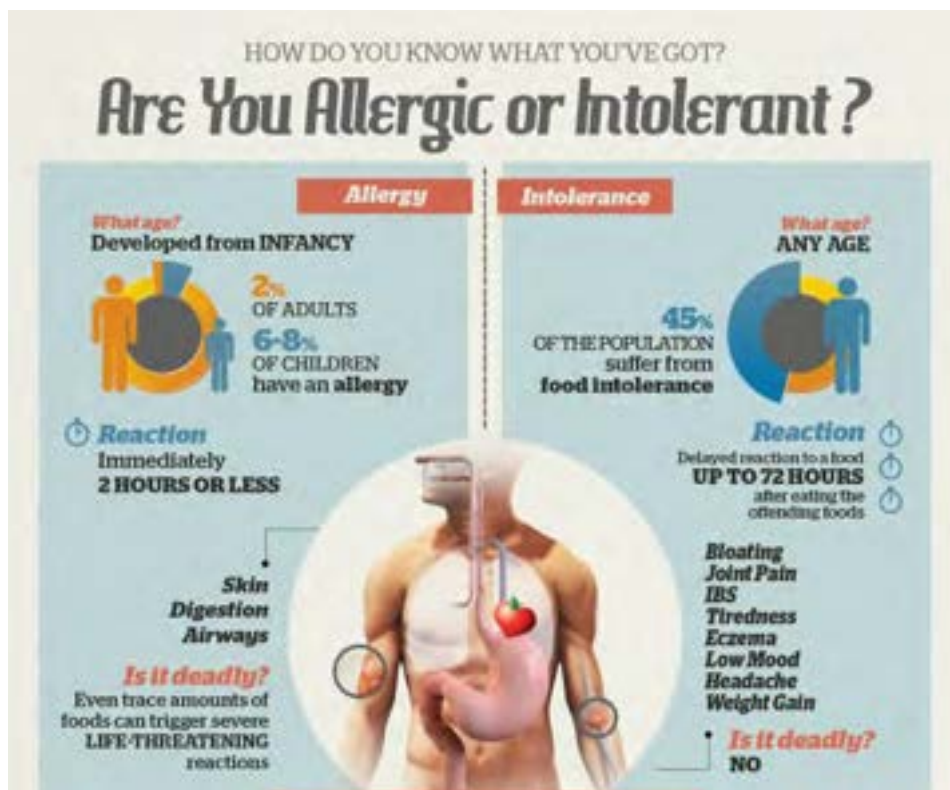
Food intolerances

A food intolerance is the body's inability to digest or process some foods e.g. gluten in bread.

Gluten, lactose, yeast, food additives and sulphites are all products which may cause intolerances in some people. While the symptoms can be unpleasant, and in some cases severe, they are generally not life-threatening. Food handlers should apply the same principles to responding to intolerances as allergies.

Cereals containing gluten and their products must be declared on the food package label. Foods with added sulphites in concentrations of 10 mg/kg or more must also be declared on the food package label. Where a food product is not required to carry a food label, the declaration must be displayed on the food or in connection with the display of the food or declared to the purchaser upon request.

Further links: [Food allergy and intolerance](#) (NSW Food Authority)



THE 'TOP TEN' ALLERGENS

While the 'top ten' most common food allergens cause around 90% of allergic reactions, **ALL** foods can be allergenic depending on individual sensitivity.

The top ten food allergens and the products they make, that must be declared by law, are:

1. peanuts
2. tree nuts (e.g. almonds, cashews)
3. eggs
4. milk
5. fish
6. crustaceans e.g. prawns, lobster)
7. sesame
8. soy
9. wheat
10. lupin



Knowing your products and effectively communicating product information is key to ensuring the safety of your customers with food allergies.

Standard 1.2.3. of the Food Standards Code (the Code) also requires products with sulphites in concentrations of 10mg/kg or more to carry a declaration the product contains sulphites. Sulphites are listed in the Code because it can trigger asthma symptoms in sulphite-sensitive individuals. The FSS and food handlers should treat sulphite queries in the same manner as an allergy question.

ALLERGENS IN DETAIL

This section includes a sample list of products for each of the top ten allergens. Each allergen is frequently used as an ingredient in other foods you may not be aware of. It is important to review ingredients of all pre-packaged foods when checking for allergens and look for any trace of allergen or declaration of cross contamination.

Peanuts

Peanuts could be considered the poster food for allergies but are classified as legumes and not nuts. They contain many potential proteins that may trigger an allergic reaction in susceptible customers and are common ingredients in many cuisines and premade products (e.g. satay sauces). Food handlers should be aware, foods containing other nuts may also have traces of peanut due to cross-contamination during manufacture. Common peanut ingredients in commercial kitchens include; peanut oil, butter and raw or roasted whole nut.

Tree Nuts

Tree nuts are separate to peanuts and include; almonds, brazil nuts, cashews, chestnuts, hazelnuts, hickory nuts, macadamia nuts, pecans, pine nuts, pistachios, walnuts and others. Many with a tree nut allergy will be allergic to more than one type of tree nut, so it is important for staff in food businesses to check products for any tree nut ingredient, not just individually declared allergies. Tree nut products include; flours and meals, some non-dairy milks, bakery products and as flavourings for foods such as ice creams and chocolate.

Eggs

Eggs are another common allergy triggering food, particularly for children. Both the white and the yolk can cause an allergic reaction, so food handlers should not serve either if a customer notifies of an egg allergy. Eggs are also a common ingredient in lots of foods, including; baked goods, meringues, custards and other desserts, pasta and some types of noodles, dressings such as mayonnaise and aioli, and as a binding agent in processed foods, including some processed meats.

Dairy

Milk allergies should not be confused with lactose intolerance. Milk allergies are caused by an immune system reaction to proteins in milk products, whereas lactose intolerance results from the body lacking the digestive enzyme, lactase. Those with a milk allergy may also have allergies to other animal milks like goat or sheep. It is important you check with the customer what alternatives they can consume, as many non-dairy milks are made from other allergens like soy or almond (tree nut). Because milk products are common, food handlers should be mindful of; cheese, cream, powdered milks, yoghurts, whey protein, as well as fresh milk.

The Food Authority recently prosecuted a business importing coconut milk for failing to declare milk proteins. The presence of milk proteins was confirmed in these products through laboratory analysis. The outcome of this matter was a guilty verdict with a conviction recorded.

Further case studies based on actual investigations, may also be found on the website: <https://www.foodauthority.nsw.gov.au/resource-centre/case-studies-and-project-outcomes>

Fish

Fish allergies refer to finned fish species, people diagnosed with an allergy for one type of fish are advised to avoid all other species. However, people with fish allergies have not been shown to have a significantly increased risk of shellfish allergy. A fish allergy is also more likely to be diagnosed later in life, in contrast to most other allergies that are more common in childhood. Food handlers should be aware of processed fish products such as; fish sauce, imitation crab or lobster (surimi), anchovies, and fish stock, as well as whole pieces of fish in their menus. Some sauces, including Worcestershire and Caesar salad dressing will include anchovies.



Worcestershire sauce

Shellfish

Shellfish allergies, like eggs, are a well-known allergy and includes all kinds of marine invertebrates (boneless animals). Shellfish allergy includes crustaceans like; crab, lobster, prawns, scampi, and crayfish, as well as molluscs like, snails (including escargot), clams, oysters, mussels, squid (calamari), and octopus. Shellfish are also common ingredients in Asian soups, sauces, and stocks and as flavourings. Food handlers should ask for clarification if a customer is allergic to all, or some types of shellfish.



Escargot



Lobster



Oysters



Prawns

Sesame

Sesame seeds are known to be a very strong allergen, so it is critical to check ingredients for sesame products. Sesame is a common ingredient in a range of cuisines, from Asian dishes made with sesame oil, to Turkish and Lebanese foods such as tahini and hummus. Sesame seeds are used in many types of baked goods such as crackers, biscuits, and pretzels, in salads as either seeds or oil in dressings, spice mixes, marinades and herb rubs, and in vegetarian foods.



Hummus



Tahini

Soybeans

Soy is another legume allergen that has several common alternative names like; bean curd, tamari, tempeh, and tofu, which means food handlers should be checking for alternative names on labels. Aside from obvious soy products like soymilk and soybean paste, soy is a common vegetable product in processed foods, particularly as a meat or dairy substitute in vegetarian dishes. Soy is also known to be used as a substitute for gluten or allergy-free breads. It can be found in; vegetable stocks, gums, soup mixes, and as flour or flavouring in cereals and baked goods. Food handlers should also be aware of Edamame beans, which are whole, immature soybeans often served in Japanese cuisine and can be eaten as snacks.



Tempeh



Tofu

Wheat.

Wheat allergies should not be confused with gluten intolerance or coeliac disease. A wheat allergy is an immune sensitivity to wheat proteins, and exposure symptoms are like other allergic reactions, up to and including anaphylaxis.

Common products containing wheat are; bread, biscuits, cakes and other baked goods, pasta, and cereals, wheat is also used as a thickening agent in; sauces, lollies like liquorice, jelly beans, and hard candies, in vegetable gums, hydrolysed vegetable protein, beer and ales, and processed meat products like hot dogs.

Freekeh is another wheat product to be mindful of. Freekeh is roasted immature durum wheat found in Middle Eastern dishes and should also be avoided by wheat-allergenic customers.

Gluten is also found in barley and rye grains, so it is important to look for the right ingredients when assisting a wheat allergenic customer.

Lupin

Lupin is also a legume and is increasingly used as a gluten-free alternative to wheat and other grain flours. However, it is also known for high cross-reactivity with peanut allergies because it carries similar proteins. Lupin is typically found where wheat or other flours can be substituted, such as breads, biscuits and other baked goods, sauces, pasta, processed meat products like burgers and sausages, and also as a substitute for soy products.

PRODUCT MANAGEMENT TO AVOID ALLERGIC REACTIONS

Know your products and their ingredients	Communication of ingredients	Food preparation
<ul style="list-style-type: none"> • Be aware of ingredients added to products • Know the process of preparation and opportunity for cross-contamination • Only use labelled ingredients 	<ul style="list-style-type: none"> • Give staff and customers ingredient information (full disclosure) both in written documents and in response to verbal questions • Provide a safe environment for staff to feel comfortable to ask management and others about products if unsure • If you can't guarantee an allergy or intolerance free meal notify the consumer, so they can decide what to do next. 	<ul style="list-style-type: none"> • Only use ingredients listed, do not replace one ingredient with another • Always use clean and sanitised equipment • Know and be confident that an allergen-free product is being produced • Food allergens cannot be destroyed through heating or cooling • Only use ingredients that are labelled, DO NOT MAKE ASSUMPTIONS or GUESS • Avoid cross-contamination by not reusing any equipment for different ingredients

There are many processes that you and your food service staff should know and follow to minimise the risk when preparing, displaying, or selling foods that contain known allergens.

Know your products

It is vital that you and your staff know the products that you make and sell as well as their ingredients. The FSS should check product labels of all foods and ingredients used in the business for allergens, including allergens listed by alternative names. All staff should be informed of allergens in products.

All staff should be aware of:

- Checking ingredients in pre-packaged foods, especially products manufactured off-site, for example, commercial mayonnaise.
- Only using labelled ingredients and products. For example, if a bag of dried porcini mushroom and herb risotto mix does not list all the contents, then the product should not be used.
- Any ingredients added to products in-house. For example, peanut butter added to a curry, or sesame oil used in a salad dressing.
- Only using reliable suppliers, and checking-in with them for allergens when products are reformulated or changed.

Communicate with customers

Food handlers **must** tell **any customer** who asks, if food products they sell contain known allergens. It's also vital food handlers know what to do if they are unsure when asked about allergen content. All food establishments should follow these principles so that staff can make informed decisions:

- Give staff and customers ingredient information (full disclosure) both in written documents and in response to verbal questions.
- If unsure, staff should feel comfortable asking management and others about products.
- Explain to staff that they must tell the customer if they cannot guarantee an allergy free or intolerance free meal.
- Tell all kitchen and service staff an allergen free meal is being prepared.
- Discuss with the customer how you will manage their allergy, they may be able to advise preparation techniques to assist you.

Information about known allergens in food can also be provided by listing them clearly in an obvious place such as:

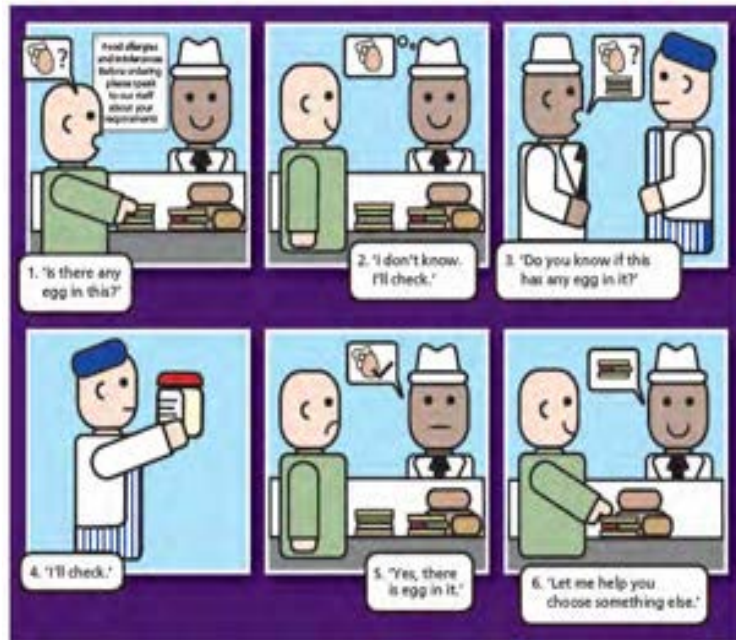
- menus
- display boards
- information pack

If information is not provided upfront, let your customers know where they can get it, either in writing or verbally.



IGNORANCE IS NO EXCUSE

The cartoon below provides example of how to respond to customers if they ask about allergens in food.



Learning activity: 2

How would you respond to the following queries from customers about different allergens?

Write your answers on the lines provided below or discuss with colleagues or other students.

1. A customer asks you if the stir-fried beef on your lunch menu contains peanuts or traces of nuts. If you are not sure, what would you say to her? Discuss your response with another student or colleague.

2. A customer at your hotel explains that he is allergic to cow's milk and wants to know if you have an alternative to prepare custard. What would you say to him if you also have light soymilk and almond milk in the refrigerator? Discuss your response with another student or colleague.

Manage food preparation

When a customer alerts you to a food allergy, you must take steps to minimise the risk of cross-contamination. Everyone who handles food needs to be informed and remain updated about the products they prepare or sell, and the ingredients contained in those products. To assist staff, known allergens must be identified and communicated.

You and your staff should:

- Always document and verbally alert kitchen and wait staff when a customer has ordered an allergen free meal.
- Only use ingredients listed in recipes - do not replace one ingredient with another. For example, do not use sesame seeds instead of poppy seeds, a customer may have chosen the meal and not disclosed an allergy.
- Understand allergen proteins are not destroyed by cooking or cooling processes.
- Try to keep a designated allergen free meal preparation area set aside, and regularly clean and sanitise preparation areas to remove residues - tiny amounts can still cause allergic reactions.
- Always use clean and sanitised utensils when storing, preparing, or serving an allergen free meal.
- When preparing an allergen free meal, make it fresh, and prepare it first. Depending on the type of dish ordered, check with the customer what a suitable alternative might be, for example, laying foil on a grill when cooking a steak to avoid contamination with fish cooked earlier, or using olive oil instead of butter on pasta.
- Avoid cross-contamination by not reusing any equipment for different ingredients. For example, do not reuse a cutting board used for preparing chopped peanuts to prepare vegetables for a salad. All utensils must be thoroughly washed and dried between uses/products.



Learning activity: 3

Explain how you would minimise the risks associated with the following practices:

- a) A wok containing peanut oil is wiped out with a paper towel and then the wok re-used

b) A chocolate mud cake, which may contain traces of tree nuts, is displayed on the same tray as a lemon meringue pie.

c) A jar of Thai curry paste does not have ingredients listed on the label.

Training staff

Ongoing training and updating of knowledge in allergen management for staff is a necessary part of any food business. All food handlers need to understand the severity of allergic reactions to foods by some people, and how to deal with any situations that may arise.

All staff should be trained in how to inform customers about known allergens in food and how to deal with situations when they don't know or are unsure about food items they sell.

When training staff in allergen management, you need to ensure they:

- Are aware of the food items and processes involved in preparing products
- Are aware of foods that contain allergenic products.
- Avoid cross contamination by changing gloves and preparing foods following appropriate food hygiene procedures.
- Are comfortable reading ingredients or seeking clarification from management if they are unsure about a product's ingredients.
- Know who to ask, when information is requested by a customer, if the presence of allergens in a food product is unknown.
- Do not serve or sell a product to customers if there is any known risk.
- Communicate to all appropriate staff involved, if they are aware that a customer has an allergy.
- Know to call 000 immediately if a customer has an allergic reaction.

Click on the highlighted link above to access a video on how to avoid cross contamination.

The following guidelines will assist all food handling staff in front and back of house to manage food allergens:

Food service (front of house):

- Implement a procedure to ensure food service staff know their obligation to declare allergens and other substances in food if a customer asks.
- Implement a procedure for ensuring all staff know how to access information about the food products they are selling, including making staff aware that recipes and ingredients should be reviewed to understand whether they contain allergens (e.g. sauces or cooking oils used in food preparation may contain an allergen ingredient).
- Update information regularly so that staff are correctly informed.

Food preparation (back of house):

Ensure food preparation staff know and understand these process steps for preparing meals for customers with allergies:

- Only accept correctly labelled foods from the supplier.
- Avoid cross contamination (in the context of allergen control).
- Store food safely in clearly labelled containers.
- Keep surfaces, utensils and hands clean.

While food allergens can cause reactions in some people, informed and well-trained food handling staff will be able to minimise the risks involved when preparing, displaying and selling food products to customers.

Knowledge is empowering and in the case of allergen awareness, it can be lifesaving. Don't risk the lives of others by taking risks.



REFERENCES

Be Prepared, Be Allergy Aware. NSW Food Authority

UK National Health Service: <https://www.nhs.uk/conditions/food-allergy/>

Allergy & Anaphylaxis Australia <http://www.allergyfacts.org.au/>

Food allergy and intolerance NSW Food Authority

INTRODUCTION

Most people in the food industry think that cleaning and sanitising is simply common-sense. They try to do the right thing and do not set out to risk the safety of customers by cutting corners or by not keeping premises and equipment clean.

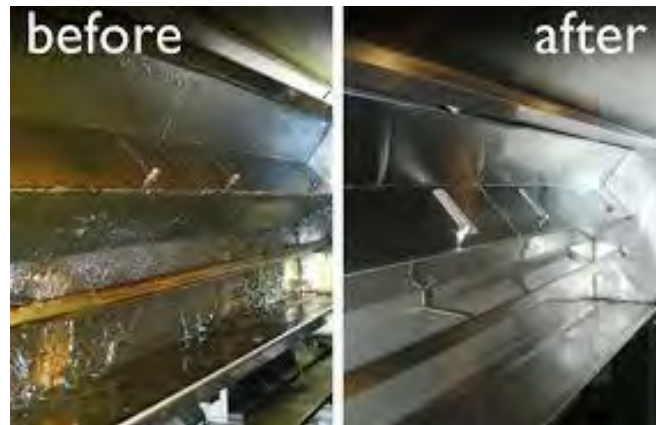
While you work in the food industry, you must consider a few important issues to manage effective workplace hygiene and cleanliness. Safe food storage and preparation is not just about the food that you and your colleagues handle and sell. It is based on rigorous and regular cleaning and sanitation practices.

KEY FACTORS IN CLEANING AND SANITISING

Cleaning and sanitising is considered the most important food safety process. As a worker in the food industry, it is important that you are aware of your responsibility to maintain hygienic work premises.

It is essential that you:

1. Understand the difference between cleaning and sanitising, and that you always put this knowledge into practice.
2. Understand the importance of purchasing and using appropriate cleaning and sanitising products in kitchens, even if you are not directly responsible for ordering these products.
3. Understand the importance of following manufacturer's instructions for the use of cleaning and sanitising products and that you do not mix chemicals and cleaning products.
4. Are aware of the dangers associated with cutting corners on cleaning and sanitising procedures (i.e. do not dilute products below concentrations recommended by the manufacturer; allow enough contact time of products with food preparation surfaces to ensure appropriate effect).
5. Understand how cutting corners may increase the potential for food poisoning micro-organisms to grow in the food premises and increase the risk of food poisoning
6. Know how to clean and sanitise effectively in a retail food service environment
7. Use simple visual checks to examine the effectiveness of cleaning and sanitation practices (e.g. equipment should be visually clean and shiny following washing and sanitising. Food display cabinets should not have food scraps or dirt stuck on shelves or in corners)



Link to image:

http://www.google.com.au/imgres?imgurl=http://www.elitekitchenexhaust.com/media/photoLG_02.jpg&imgrefurl=http://www.elitekitchenexhaust.com/gallery.html&h=368&w=593&tbnid=PhklonAwZBYOnM:&zoom=1&docid=Lcx37JCIBXPO2M&ei=K9iRVYPsLcHZmAXkzIDACw&tbn=isch&ved=0CCQQMyygJMAk

GOOD PERSONAL HYGIENE

Effective cleaning and sanitising starts with good personal hygiene.

Wiping down a bench with a cloth that has been in contact with your unwashed hands after blowing your nose, sneezing or coughing will only increase the risk of contaminating the surface. Always wash your hands before beginning a cleaning and sanitising task and use a clean cloth to wipe down benches. The effectiveness of chemicals and sanitisers will be reduced significantly if you do not practice good hand washing techniques.



Link to image: <http://www.food.gov.uk/sites/default/files/multimedia/pdfs/publication/sfbb-workingwithfd-0513.pdf>

LEARNING ACTIVITY: 1

Remind yourself about the importance of effective hand washing by viewing the YouTube link below:

Food safety coaching (Part 1): *Hand washing*

<https://www.youtube.com/watch?v=cCpr11OuYKI>

After watching the video on hand washing – list 3 important points to remember when washing your hands.

1. _____
2. _____
3. _____

WHAT IS CLEANING AND SANITISING

Cleaning and sanitising are critical processes for ensuring the safety of the consumer and your employees.

Cleaning and sanitising are separate parts of a two-step process as identified in the following pages:

Part 1



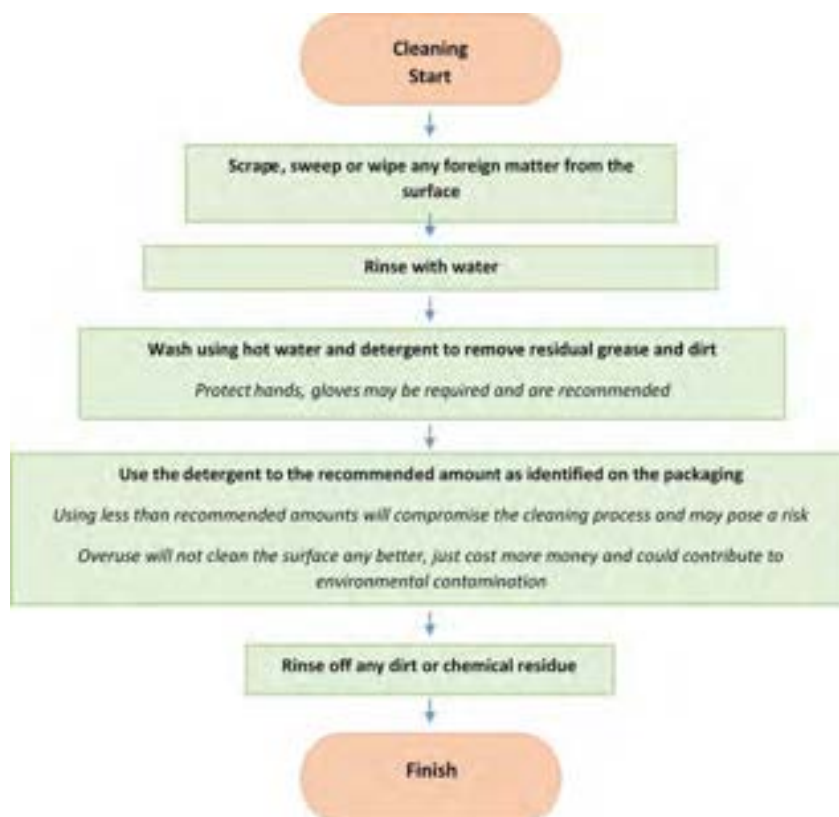
Credit: eWater Systems, accessed 2015

Cleaning is the process of removing all food residues, dirt, grease and other visual matter and odours from all fixtures, fittings and equipment.

There are six steps for effective cleaning and sanitising. The first three focus on cleaning:

1. Pre-clean: scrape or wipe food scraps and other matter off surfaces and rinse with water.
2. Wash: use hot water and detergent to remove grease and food residue. (Soak if needed.)
3. Rinse: rinse off detergent and any loosened residue.

Remember to ‘Clean as you go’ and to always follow the steps in the Flowchart below for effective cleaning.



Learning Activity: 2

Take some time to follow the link and view the YouTube clip on effective cleaning:

Food safety coaching (Part 6): Cleaning effectively

<https://www.youtube.com/watch?v=bRh1N1My4GY>

After watching the video, list 3 critical steps in the cleaning and sanitising process

1. _____
2. _____
3. _____

Part 2

Sanitising is the process of reducing the number of bacteria and other organisms to a safe level. The process can be either through applying heat and/or chemicals. Sanitising is required for all food contact surfaces and eating utensils.

Steps 4 to 6 for effective cleaning and sanitising deal with minimising the number of bacteria:

4. Sanitise: use a sanitiser to destroy remaining microorganisms (as per manufacturer’s instructions)
 - a. Allow the appropriate contact time for the sanitiser to work (as per manufacturers’ instructions)
5. Final rinse: wash off the sanitiser if necessary (as per manufacturers’ instructions).
6. Allow utensils, crockery and benches to air dry or use single use towels.

The two types of sanitisers are:

1. Heat – using hot water (usually a dishwasher). The higher the temperature the shorter the contact time required.
2. Chemicals – to be effective, you need to have the correct concentration, temperature and contact time.

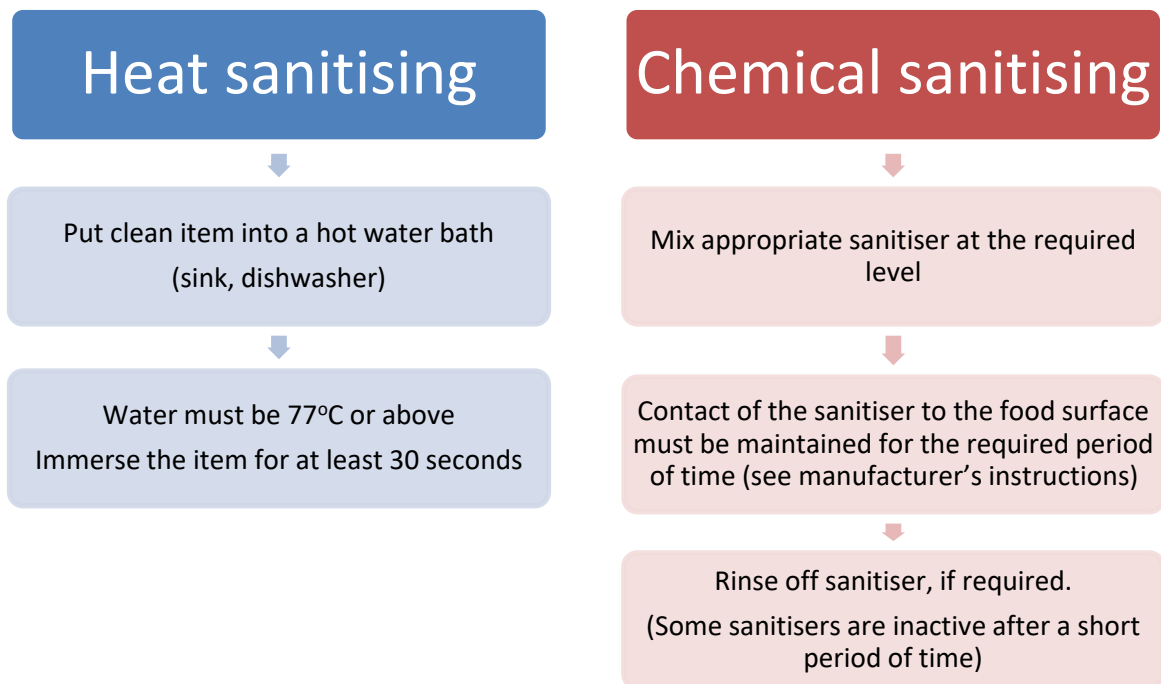
It is important to understand that if preparation benches, surfaces and equipment are only physically cleaned (wiped down), bacteria will live and multiply. Wiping a surface evenly distributes the bacteria over it.

Sanitising is only effective on clean surfaces. Sanitising works best on surfaces free from dirt, grease and food particles.

The sanitising process will not kill all bacteria, but it will reduce the number to an acceptably low safe level.



The chart below provides details about how to use heat (hot water) and chemicals to sanitise equipment and surfaces.



Cleaning and sanitising is only effective if used and applied appropriately. Dry the surface after sanitising, water left on a surface provides ideal conditions for bacterial growth.

Using sanitisers effectively

Sanitisers appropriate for use in food preparation areas must be purchased and used according to manufacturer's instructions to ensure that:

- The risk of chemical contamination is removed
- The chemical is suitable for contact with food, meaning it will not leave chemical residue after use e.g. methylated spirits is NOT to be used for this reason
- The sanitiser is effective when used at the recommended concentration e.g. vinegar is ineffective as it is a weak acid that will NOT reduce the number of bacteria to a safe level
- Bleach is effective but MUST be used at the correct water temperature for the level of chlorine and concentration. Bleach must be prepared daily to ensure the solution remains effective.

Table 1: Using bleach as a sanitiser

How much water?	How much bleach?					
	Household (4% chlorine)		Strong domestic (6% chlorine)		Commercial (10% chlorine)	
Concentration required (ppm)	50 ppm	100 ppm	50 ppm	100 ppm	50 ppm	100 ppm
Water temp	Warm	Cold	Warm	Cold	Warm	Cold
1 litre	1.25 ml	2.5 ml	0.85 ml	1.7 ml	0.5 ml	1 ml
10 litres	12.5 ml	25 ml	8.5 ml	17 ml	5 ml	10 ml
50 litres	62.5 ml	125 ml	42.5 ml	85 ml	25 ml	50 ml

Source: Cleaning and sanitising in food businesses, NSW Food Authority

https://www.foodauthority.nsw.gov.au/sites/default/files/Documents/industry/cleaning_sanitising_food_businesses.pdf

https://www.cityofsydney.nsw.gov.au/data/assets/pdf_file/0011/108398/ISCRFG-CleaningSanitising.pdf

ALWAYS USE SANITISER ACCORDING TO MANUFACTURER'S INSTRUCTIONS

Examples of effective cleaning and sanitising practices include:

1. Using a dishwasher on the hottest washing settings

NOTE: all the recommended steps must still be followed:

- Remove waste
- Clean cycle using appropriate dishwasher chemical
- Operating using the hottest rinse cycle available (washing using the economy cycle on a domestic dishwasher is not adequate)
- Leave to dry.
- A visual check should be done of equipment and utensils when removed from the dishwasher to ensure they are clean.
- Dishwasher should be regularly maintained and serviced according to manufacturer's instructions

2. Food preparation surfaces and equipment (benches, mixers, utensils)

- Wipe down
- Wash with hot soapy water
- Rinse to remove cleaning chemical and any extra food waste
- Wipe down with sanitiser e.g. Commercial bleach (10% chlorine) – 1 ml in 1 L cold water for 7 seconds.

DISHWASHERS AND CLEANING AND SANITISING

Food businesses will often use dishwashers to clean plates, cutlery and glassware.

The Food Standards Code does not provide guidelines or regulations around the use of dishwashers, so you should ensure the cleaning and sanitising process is sufficiently robust to meet the guidelines elsewhere in this module.

Dishwashers typically use heat to sanitise the items they clean. Domestic dishwashers generally use lower rinse temperatures than commercial dishwashers but use a longer heat cycle to compensate for these lower temperatures. Commercial dishwashers will have a specific sanitising setting. This setting is designed to spray water over 80°C until the temperature of the items being cleaned achieve a sanitising temperature (the exact temperature might be 71°C for United States standards or 80°C for European standards).

Some dishwashers may also have a chemical sanitiser step in their wash cycle. It is important to follow the manufacturer's instructions on what an appropriate sanitiser is and follow the sanitiser instructions when adding to the dishwasher.

The hottest and longest dishwasher program is recommended (e.g. 'hygienic wash' or equivalent heavy-duty, high-intensity settings). This is because lighter or shorter settings may not reach a hot enough temperature for long enough to sufficiently reduce microorganism levels.

If your business uses a dishwasher, you should find out what the sanitising process is within the dishwasher's program, so you know whether to add your own sanitiser steps.

If your dishwasher does not reach a high enough temperature for long enough, you should ensure there is still a sanitising step such as a very high temperature (over 77°C for at least 30 seconds) water bath or applying a chemical sanitiser and rinse.

Domestic dishwashers are not typically suitable for most commercial retail/hospitality food businesses.

MAINTAINING EFFECTIVE CLEANING AND SANITISING

To maintain effective cleaning and sanitising of premises, it is important to have a written schedule that defines all surfaces, equipment and utensils and how they are to be cleaned.

The cleaning schedule should include:

- Written instructions
- Equipment and area/s to be cleaned
- Frequency of cleaning
- Person/s responsible
- Cleaning and sanitising agents (concentration, temperature and contact time)
- Precautions against the contamination of food and ingredients.

In a successful cleaning program, staff must be trained adequately and receive refresher training on a regular basis.

Inner Sydney Councils Regional Food Group – Cleaning and sanitising fact sheet provides guidance on developing a cleaning schedule:

http://www.cityofsydney.nsw.gov.au/_data/assets/pdf_file/0011/108398/ISCRFG-CleaningSanitising.pdf

Learning Activity 3

Using your workplace as the example, fill the frequency section of the Cleaning schedule below. The first one has been completed as an example.

Discuss your answers with other students or colleagues.

Area to be cleaned	Frequency	Process	Product	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Floors & storerooms	End of shift or after spillage	Broom, clean floor. Mop with detergent. Rinse clean water.	Detergent							
Food contact surfaces- benches etc.		Rinse with warm water. Apply chemical sanitiser (to manufacturer's concentration). Rinse with warm water to remove residues	Warm water Sanitiser							
Utensils used to serve and/or prepare foods		Rinse off excess food. Detergent with warm water. Sanitise.	Detergent Sanitiser							
Bain mair		Wipe over. Detergent with warm water. Sanitise food contact surfaces	Detergent Sanitiser							
Stove top/stove sides/deep fryers		Warm water & detergent	Detergent							
Cool room outside/ internally		Warm water & detergent	Detergent							
Garbage bins within food preparation area		Empty bin, replace the liner	Bin liner							

Walls, fans, exhaust heads, cupboards, light fittings, shelving		Sponge down with detergent. Rinse with clean water	Detergent							
Areas beneath & behind stove/grill/deep fryers & equipment		Broom, clean floor. Mop with detergent	Detergent							

Following cleaning and sanitising, you and your staff should use a checklist approach to ensure the effectiveness of the process.

Checks should include:

- Visual checks to ensure items are free of any foreign material
- That there are no visual signs of chemical/cleaning residue i.e. not cloudy or dull residue. The surface should be shiny
- The surface should be dry.

Compromising the cleaning and sanitation process

Not following procedures, and / or taking shortcuts will compromise the cleaning and sanitising process in the following ways:

- Residual food will encourage the growth of bacteria
- Increase the food safety risk to your customers because bacteria or allergens aren't removed

These incidences are a VERY high risk to your customers as they cannot be traced through product knowledge and labelling.

REFERENCES

Safe Food Australia, FSANZ

<https://www.foodstandards.gov.au/publications/Pages/safefoodaustralia3rd16.aspx>

Cleaning and sanitising in food businesses, NSW Food Authority

https://www.foodauthority.nsw.gov.au/sites/default/files/Documents/industry/cleaning_sanitising_food_businesses.pdf

Inner Sydney Councils Regional Food Group – Cleaning and sanitising fact sheet

http://www.cityofsydney.nsw.gov.au/data/assets/pdf_file/0011/108398/ISCRFG-CleaningSanitising.pdf

RECOMMENDED CLEANING FREQUENCIES

After each use or meal preparation period:

- All utensils, crockery, cutlery, pots and pans
- Equipment such as meat slicers, milkshake mixers and cutting boards/blocks
- Food preparation benches, sinks, customer tables

At least daily:

- Equipment such as microwaves, coffee machines, microwave ovens, stove tops,
- Bain Marie
- Floors and walkways
- Refrigerator rubber door seals
- All staff/patron toilets, change rooms
- Waste areas

Weekly:

- Floors/walls beneath and behind all appliances
- Shelving, cupboards
- Flyscreens
- Interior cool room and refrigerators, freezers
- Dry storage areas, including outside of all ingredient containers
- Ovens
- Rubbish bins

Monthly:

- Light fittings, fans
- Exhaust canopies
- Pest control

Three monthly:

- Arrange for grease trap to be cleaned
- Professional pest control

USE APPROPRIATE CONTAINERS AND PREVENT ACCUMULATION OF GARBAGE AND RECYCLED MATTER

In each establishment there will be a policy and procedure that will show guidelines for the sorting and disposal of all waste whether it be general waste to recycle waste.

Recyclable waste may include:

- Aluminium
- Glass
- Fryer oil
- Cardboard
- Plastics
- Food waste
- Paper
- Steel

Liquid waste, including waste and cooking oil, must not be placed in a general waste bin or poured down the drain. They must be placed into a designated container where they are collect and later refined for further use.



FOOD WASTE

It is important that any food that is identified as food waste is kept separate from other foods and food preparation areas, this food waste is to be disposed of as soon as possible to reduce the possibility of cross-contamination and the risk of attracting pests.

Waste which can be fed to animals is considered food waste. Hard matters such as bones, hard shells etc., are not classified as food waste.

Classification	Items not included in food waste
Fruits	Hard shells such as shells of walnuts, chestnuts, peanuts, acorns, coconuts, pineapples, coconut palms
	Seeds of drupes such as peaches, apricots, persimmons
Meats	Bones and feathers
Seafood	Shells of clam, turban shell, abalone, ark shell, sea squirt, oyster, crawfish, lobster, etc.
	Internal organs of globe fish
Others	Tea bags, grounds of herbal medicine

Food that is clearly identified as not safe, or suspected of not being safe, for consumption or subject to recall should be:

- Destroyed
- Disposed of so that it cannot be used for human consumption
- Returned to supplier

Food Waste disposal tips

- Dispose of all food that:
 - Has been served to a customer and not eaten
 - Has been held in hot storage for longer than six hours
 - Is known to be unsafe to consume
 - Is past its 'use-by' or 'best before' date
 - You suspect might have been contaminated by pests, dirt, dust or cleaning chemicals
 - You are required to dispose of under an order or as a result of a food recall
- Separate waste food from the foods to be used for human consumption
- Place waste disposal bins conveniently around the food preparation area
- Clearly label waste disposal bins to make them clearly distinguishable from food storage containers
- Use plastic bin liners in waste disposal bins in food preparation areas
- Regularly empty rubbish bins in food preparation areas to avoid over-filling or spillages
- Tie all bin liners before placing them in waste disposal storage
- Clean waste disposal bins in preparation areas on a daily basis & leave overnight to air dry

WASTE DISPOSAL AREAS

The generation of waste in food premises is an important issue as it may attract pests, causes bad odours, encourage bacterial growth and cause cross-contamination.

The external areas for rubbish disposal should be as far away from the rear door of the kitchen or food establishment as possible, this is so odours and pests cannot easily enter the kitchen or food establishment.

In this area disposal of rubbish should also be:

- Kept in an area which is thoroughly cleaned at regular intervals by sweeping, washing and hosing down
- All rubbish must be kept in appropriate containers, usually supplied by the council or a contractor
- All rubbish must be cleared and/or collected regularly

- The area should be disinfected regularly as this will help to kill any bacteria as well as reduce unpleasant smells and also give a pleasant scented smell to the area, which will be less offensive to passers-by or customers near by
- All recyclable rubbish should be flattened to make it more compact and stored correctly

Remember

Keep it Clean, Dispose of Correctly

PEST CONTROL

Under Standard 3.2.2—Food Safety Practices and General Requirements, your business must do everything it reasonably can to prevent pest problems.

This means:

- pests are stopped from entering or living in your food premises
- pests are eradicated from your premises and vehicles used to transport food

Pests come in many shapes and forms, big or small, visible or not, but they all create the same problem which is an unsanitary working environment that can lead to many kinds of illnesses and causes of cross contamination. Some of the pests you might find in a food environment are:

- Rats and mice
- Other vermin
- Cockroaches
- Fleas and other insects

These pests can be easily avoided by simply following a proper cleaning procedure and making sure all door, window and fridge seals are up to standard.

If you do have a pest problem you need to deal with it quickly and concisely, you can do this by:

- Placing traps specific to the type of pest you have
- Keeping bin areas clean and lids down at all times
- Wrap all food scraps tightly and place them in the bin straight away

Pests can be avoided and controlled at all times by simple things and it's the simple things people most commonly forget about.



AREAS TO INSPECT

Pest management is built around inspections and crack & crevice treatment. Inspections are the key to finding pest harbourage areas, entry and exit ways, and sanitation problems that need correcting. The following areas should be inspected regularly

Prep Tables: Check behind flashing, under table tops and shelves, in hollow legs and drawers. Look for spilled or dried food where equipment touches the wall, floor or other equipment.

Dry Storage: Food spillage and excess cardboard are common in this area and must be removed. Product sitting on shelves can become a resource site.

Fryer: Inspect thoroughly here; grease builds up quickly and fryers often get “stuck” to adjoining equipment and walls, trapping food in hard-to-reach spaces.

Grills: Debris commonly builds up under the unit and against the wall, creating pest harbourage. Be aware of pilot lights when inspecting or treating in this area.

Plating Station: Inspect inside cabinets and drawers and below and behind this area. Large voids exist here. Condiments are often spilled around salads and appetizers in cold plating stations.

Carts & Racks: Sanitation is often a problem on slides, frame and wheels. Inspect carefully to prevent distributing pests from one area to another.

Floor Drains: Inspect all drains, under heavy equipment, in the open floor, restrooms, storage areas and walk-in cooler and check routinely for signs of pests.

Pipes/Conduit:

Pipes and conduit provide pathways and harbourage areas for pests. Inspect outlets, pipe chases and other pathways around any equipment that uses electricity, gas or water.

Beverage: Beverage tanks should be kept off the floor, if possible, for better sanitation. Inspect hoses for leaks and dispenser for proper sanitation. Have them cleaned if necessary.

Dishwashing: Inspect motor housing, open pipe chases, detergent dispenser, hollow legs, and cracks in tiles and above ceiling tiles. Look for spilled food and dirty cookware, especially under equipment.

SHOULD I KEEP RECORDS?

Yes – you MUST keep reports of any pest inspections and treatments done. The report should include dates, type of pest activity, chemicals/controls used and recommended actions. Any recommended actions should be done as soon as you can.

TOPIC 6 – HACCP & ORGANISATIONAL HYGIENE PROCEDURES

WHAT IS HAZARD ANALYSIS CRITICAL CONTROL POINT? (HACCP)

- H = Hazard
- A = Analysis
- C = Critical
- C = Control
- P = Point



HACCP is the systematic **preventative** approach to food safety. It addresses physical, chemical, and biological hazards as a means of prevention that could occur during the food production process and make the end product unsafe. A fundamental aim of the HACCP principles is to discover any potential hazards so that control measures can be designed. If necessary, these control measures will be put in place and reduce the risk of the hazards occurring.

This approach has significant benefits to organisations operating within the food supply chain as it enables them to determine key controls over processes and concentrate resources on activities that are critical to ensuring safe food.

HACCP CODEX

The HACCP Codex Alimentarius 2020 is an international guideline based on the preventive management of food safety issues. The Codex Alimentarius (meaning "Food Code" or "Food Law" in Latin) is a collection of food standards, codes of practice and other recommendations presented in a uniform way.

The Codex General Principles of Food Hygiene lay a firm foundation for ensuring food hygiene. The requirements of the General Principles of Food Hygiene are considered to be the foundation for the development of an HACCP-based system for ensuring food safety and provide the basis for our Food Safety Standards

WHY HAVE HACCP FOOD SAFETY SYSTEMS?

The HACCP principles are important for businesses involved in all areas of the food industry because they help to maintain the best food safety practices. This is necessary to maintain safe food handling practices and protect public health.

As each food business is different, each will have different food safety processes and procedures. The HACCP principles are designed to be used as a template, to help businesses handle, process or sell potentially hazardous foods.

Neglecting safe food handling procedures can be financially expensive.

- There is the potential for wastage of spoilt food and out of date stock. The business will lose customers and revenue
- There are penalties or fines, imposed for the business and individuals for not complying with the legal requirements regarding food safety
- Individual consumers can suffer significant illness and sometimes death through food poisoning

The consequences and costs of not complying with food safety requirements and implementing food safety procedures are significant for public health, the hospitality and tourism industry sector, and for individual businesses and their employees.

All staff should have a basic understanding of the federal national codes and standards which underpin state regulatory requirements and the NSW government food safety regulations and other government initiatives which impact on food safety compliance.

PRINCIPLES OF HACCP IN ACTION

	Principle	Action taken
1	Conduct a hazard analysis	Identify all possible food safety hazards (chemical, physical and biological) which can occur at each stage of processing.
2	Determine the critical control points (CCPs)	Establish the points where control is critical to managing the food safety of the food item.
3	Establish critical limit(s)	Set limits to identify when a critical control point is out of control.
4	Monitor control of the CCP	Specific monitoring of each CCP, as well as documenting the frequency and responsibility for monitoring.
5	Corrective actions	Establish the corrective action to be taken when monitoring indicates a particular CCP is not under control.
6	Documentation	Establish procedures for verification to confirm the HACCP system is working effectively.
7	Verification	Establish documentation concerning all procedures and records appropriate to these principles and their application.

FOLLOW POLICIES AND PROCEDURES IN FOOD SAFETY PROGRAM

All businesses must actively work to promote good personal hygiene of staff and implement everyday work procedures which prevent the growth of microorganisms and limit the opportunity for cross-contamination.

The FSANZ standard 3.2.1 requires all food businesses to implement a food safety program based upon the HACCP concepts. A food safety program based on identifying and analysing the food safety hazards which exist in a food service operation, and implementing a simple set of policies and procedures to be followed by a food handlers, can be done by following the six steps below.

A food safety program for each business must follow a systematic documented manner:

1. Identify the potential food safety hazards
2. Identify the means of control of the hazards
3. Monitor the hazards
4. Provide for corrective action
5. Regularly review the program
6. Keep appropriate records



There are any number of ways to get started on applying the HACCP principles successfully to your food business. Depending on how complex the set up is, you might decide to do much of it yourself. Alternatively, there are resources available to download from the NSW Food Authority:

<https://www.foodauthority.nsw.gov.au/industry/audits-and-compliance/food-safety-programs-haccp>

IDENTIFY AND REPORT UNSAFE PRACTICES

All food handlers have a responsibility to take action, according to their level of responsibility, to correct or report on any unsafe practices or situations they observe in their workplace.

It is **your responsibility** to ensure reporting procedures are followed to maintain a safe environment for staff and customers. If you become aware of any issues of possible food contamination caused by either yourself or someone else it is your duty to report them as soon as possible.

TOPIC 7 – HACCP PRINCIPLES IN PRACTICE

Now that you understand what HACCP means, let's have a look at how the principles can be applied in your food business.

CRITICAL CONTROL POINTS (CCP)

A control point is any step at which biological, chemical, or physical factors can be controlled. A **critical** control point (CCP) is a step in the food production process where preventative measures can be applied to prevent, reduce or eliminate a food safety hazard, such as bacterial growth or chemical contamination.

Each business must put in place procedures at the “critical control points” or the stages in processing or preparing of food, where there is a high risk of contamination or food spoilage.

Common critical control points for hospitality businesses are:

- Purchasing and delivery
- Stock control and food storage
- Preparation
- Cooking
- Cooling
- Reheating
- Holding or display
- Service

Each business needs to identify the critical control points which are relevant to their business and operation.

CONTROL OF FOOD HAZARDS AT CRITICAL CONTROL POINTS

PURCHASING AND DELIVERY

- Use only use reputable or approved suppliers. Ask for evidence of the supplier's food safety program or HACCP certificate
- Deliveries of food supplies should be made at a convenient time for correct checking and storage procedures to be followed
- Check the temperature of all perishable, potentially hazardous and frozen foods and record the temperature
- Check use-by dates
- Check for any damage or opening to packaging or produce

- Check for “freezer burn” or visible icicles inside frozen food wrapping
- Reject the delivery if the delivery does not meet the temperature requirements (<5°C for cold food and -18°C for frozen food), if the food is out of date, or if there is any variation in normal colour, texture, odour or general appearance

STOCK CONTROL AND FOOD STORAGE

- Store food immediately and at the correct temperature
- Cover food and make sure it is clearly labelled and dated
- Never store food on the floor
- Separate raw and cooked foods
- Rotate stock on a first in first out (FIFO) basis
- Do not store food near chemicals
- Keep storage areas clean and dry
- Check storage areas daily for pests and cleanliness
- Check and record temperature of cold food storage areas; cool rooms, bench fridges, display fridges and preparation fridges to ensure food is being stored at temperatures that don’t allow food microorganisms to grow

PREPARATION

- Always wash hands before commencing any preparation and between raw and cooked foods
- Prepare raw and cooked foods separately and use separate chopping boards and knives
- Adhere to colour coded chopping boards
 - white – for dairy and bakery
 - yellow – for poultry and game
 - red – for raw meat
 - brown – for cooked meat
 - green – for vegetable and fruits
 - blue – for seafood
- Thoroughly wash all fruit and vegetables in clean water before use, to remove soil, insects and any chemical residues
- Use clean and sanitised equipment
- Avoid cross-contamination. Cooking destroys most harmful bacteria however cooked foods can be re-contaminated by allowing the transfer of bacteria from raw to cooked food. This can occur with hands, utensils, equipment or surfaces such as benches and cutting boards
- When preparing food, limit the time high-risk foods are in the danger zone. This should be less than one hour preparation time for high risk foods

- Fingers should not be used to taste food. A tasting spoon should be used and washed after each tasting
- Thaw foods in a refrigerator, cool room or in the microwave

COOKING

- Cook foods to a temperature of at least 75 °C or hotter
- Chicken and pork cuts must be thoroughly cooked, so that the centre is no longer pink. Using a meat thermometer is a good idea when roasting meats
- Record the temperature of potentially hazardous foods when they are cooked

COOLING

- Potentially hazardous food needs to be cooled after cooking as quickly as possible - their temperature should be reduced as quickly as possible. The temperature should fall from 60°C to 21°C in less than two hours and be reduced to 5°C or colder in the next four hours.
- Placing hot food straight into the cool room or freezer is not advisable as it raises the temperature of these storage areas placing the food into the danger zone
- Small portions and shallow containers cool food quickly
- Transfer hot foods into smaller shallow containers
- Stir food to decrease temperatures
- Cool the food container in some ice or cold water



REHEATING

- Potentially hazardous food needs to be reheated as quickly as possible to above 75°C
- Do not reheat food in a bain-marie or other hot holding equipment, as the temperature is not sufficient to reheat the food quickly
- Reheat potentially hazardous food once only

HOLDING OR DISPLAY

- Be sure that the bain-marie is above 60°C before filling with food
- Food must be 'HOT' when it is placed into the heated container (cooked or reheated to 75°C)
- Hot food must remain over 60°C throughout the service period
- Cold food must be displayed or held at temperatures <5°C
- Check temperature with thermometer
- Stir foods to keep even distribution of heat
- Use separate serving/ladle utensils for each container of food

- If food is packaged, ensure the packaging material and type is suited to the food type and conditions
- Unwrapped or unpackaged food which is to be displayed on a counter, must be covered at all times, or protected so customers cannot touch or cough on the food. Food cover or sneeze guards are ideal for this purpose.
- Raw food and ready to eat food must be separated (e.g. by using plastic partitions)
- Discard any unused food, potentially contaminated food, or food that there is any variation in normal colour, texture, odour or general appearance

SERVICE

- Food is to be served with utensils only
- Foods which are to be held hot for service must not be allowed to fall below 60°C
- Foods which are to be served cold must be kept refrigerated at <5°C until serving time
- Separate serving utensils should be provided for each dish
- Single use, disposable, take away food and drink containers, lids, and drinking straws must be kept in hygienic, covered receptacles until used

FOOD SAFETY PRE-REQUISITE PROGRAMS

Food businesses also need to ensure the safety of food within their wider operating environment. Besides food handling procedures each business needs to support a clean healthy environment.

“Prerequisite programs” or “support” programs provide the basic environmental and operating conditions which are necessary for the production of safe, wholesome food. These conditions and practices are now considered to be prerequisites to the development and implementation of effective HACCP plans.

Common prerequisite programs may include, but are not limited to:

- Maintenance and facilities
- Approved suppliers
- Good food handling procedures
- Cleaning and sanitising
- Personal hygiene
- Pest control
- Staff training
- Chemical handling
- Calibration of equipment

- Traceability and recall
- Internal audit
- Document control

Other examples of support programs might include procedures for labelling, allergen control, and employee, food and customer complaints

COMPLETE FOOD SAFETY MONITORING PROCESSES AND COMPLETE DOCUMENTS AS REQUIRED

The HACCP principles state that comprehensive, up-to-date records must be kept. Depending on your business, often these records are kept together in a live-document called the Food Safety Plan. The Food Safety Plan identifies food safety hazards and the controls in place to monitor and manage them. Some examples of records that your business might need to keep could be:

- temperature charts and logs
- storage logs
- cleaning schedules
- employee qualifications
- pest control logs



A food safety program must be retained at the premises of the food business and must:

- Systematically identify the food safety hazards that are reasonably likely to occur in food handling operations of the food business
- Identify where, in a food handling operation of the food business, each hazard identified can be controlled and the means of control
- Provide for the systematic monitoring of the means of control
- Provide for appropriate corrective action to be taken when a hazard identified, is not under control
- Provide for the regular review of the program to ensure it is appropriate for the food business
- Provide for the keeping of appropriate records for the food business, including records about action taken to ensure the business is carried on in compliance with the program
- Contain other information, relating to the control of food safety hazards, prescribed under a regulation

Depending on a business's relevant legislation, a business might be required to present these records to their governing food authority for inspection.

DOCUMENTATION AND RECORD KEEPING

Records will help you to introduce and maintain consistent good practices, and to demonstrate to your verifier (auditor) that you are sufficiently controlling those factors that can impact on the safety and suitability of the food.

Assess any records you already have, and introduce any additional records you need for the monitoring and corrective action activities you specify in your procedure. When monitoring, you may have an option to either:

- Record every check
- Indicate that checks have regularly been carried out (e.g. throughout a week) and only record the results of a specific check where something went wrong. In these instances, always make a record of what you did to put things right (the corrective action)

Keep blank record forms handy for staff to use and let people know where they are. Keep completed record forms together where they can be found easily for your regular internal verification checks.

IDENTIFY AND REPORT NON-CONFORMING PRACTICES.

Food business operators have a legal duty to ensure the food they sell is safe and suitable.

A system for managing problems with products will ensure the operator is able to:

- Control the product that is released from their control;
- Quickly and effectively recall or withdraw product from the market;
- Inform customers if they suspect or become aware product is unsafe so they do not use it and become ill

Problems with products may be identified by:

- The supplier of goods such as ingredients or packaging (e.g. The supplier discovers a non-compliance with their product after selling it to the food business)
- The food business itself
- A customer or through consumer complaints
- A regulator or verifier

Proper investigation and the regular review of customer complaints can help you to better understand the performance of your food safety system and to identify potential hazards that you may have been unaware of.

NON-CONFORMING PRODUCT

Consider at the following points:

- How you detect food non-conformances, e.g.
 - Investigating and reviewing complaints
 - Following up on relevant feedback / notifications from suppliers, verifiers and regulators
 - Investigating failures in good operating practices
 - Process control checks and monitoring
 - Any sampling and testing of product
- How you identify which specific food is non-conforming and what is the extent of the problem e.g.:
 - Ensuring you identify what caused the problem, why it happened, and how much product is affected (e.g. Using inventory records, product descriptions, batch codes, lot numbers, dates and times etc.)
- How you ensure non-conforming food is secured against use or dispatch, e.g.:
 - Putting non-conforming food on hold, pending further investigation
 - Ensuring product on hold is clearly identifiable/labelled and held in segregated storage or in a designated area away from other food
 - Ensuring staff are aware of product status
- Ensuring product can only be released on the authority of an appropriate person How you manage non-conforming product. Consider the following corrective actions, as appropriate:
 - Release as is, with customer's agreement (only if they can manage the problem)
 - Re-grading affected food and making it suitable for another propose (e.g. Disposal to pet food or transfer to animal feed if appropriate. Clearly label the food "not for human consumption")
 - Re-working or re-labelling affected food where the fault can be removed;
 - Rejecting the food and making sure it is denatured before disposal (e.g. Defacing the packaging or puncturing tins before removal to landfill), and where necessary
 - Recalling the food

TAKE CORRECTIVE ACTIONS WITHIN SCOPE OF JOB RESPONSIBILITY FOR INCIDENTS WHERE FOOD HAZARDS ARE NOT CONTROLLED

CORRECTIVE ACTIONS

Each hospitality business must take corrective actions if the food hazards are found not to be under control, or the food poses a risk of harm if eaten.

When checking and monitoring food safety, staff need to take action if there is a procedure not followed, or the critical control points are breached, or they feel that there is an incident that may pose a food safety hazard. The corrective action should either remedy the food safety hazard or

prevent the food from being consumed. Staff must also take steps to prevent the hazard from happening again.

All corrective actions must be written down in a record book. Examples of some common corrective actions are:

- Rejection of deliveries
- Disposal of out of date food
- Disposal of food items which are not able to be identified
- Organising equipment repairs or service
- Organising pest control services
- Reporting incidents to management

Some examples of incidents where there are indications of a possible food hazard and where corrective actions may be required are:

- Customer complaints
- Out of date food
- Spoilt, unattractive food
- Unclean equipment
- Physical objects found in food
- Pest sightings
- Loose garbage and food residue
- Food poisoning illness reports

DISPOSE OF OR REPORT CHIPPED, BROKEN OR CRACKED EATING, DRINKING OR FOOD HANDLING UTENSILS



A food business must not use any chipped, broken or cracked eating or drinking utensils when handling food (see Standard 3.2.2 cl 21 of the Code).

Chipped, broken or cracked eating or drinking utensils are a food safety risk as:

- they cannot be effectively [cleaned](#) and [sanitised](#) and therefore may allow the transmission of infectious diseases
- they may contaminate food directly if broken or chipped pieces of the utensil fall into the food.

When disposing of these items you **must** use the correct personal protective equipment, and these broken or chipped service ware or plates etc, are then disposed of in the correct manner and into the correct disposal bin (as designated by your establishment and council).

Any breakages that are found must be reported to the appropriate person so they can be recorded and replacements organised as soon as possible, failure to do this could lead to your establishment's reputation being tarnished.

TOPIC 8 – KEEPING YOURSELF SAFE – PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE is specialized clothing or equipment worn by employees for protection against health and safety hazards. Personal protective equipment is designed to protect many parts of the body, i.e., eyes, head, face, hands, feet, and ears.

When handling food and chemicals in a kitchen or a food environment the standard PPE to be worn would be:

- Gloves
- Masks
- Aprons
- Leather shoes
- Chain mail gloves (if butchering meat)
- Hand mitts



Employees are responsible for:

- Not placing themselves or others at risk of injury
- Using PPE that is provided
- Participating in consultation processes associated with selection, use and training in relation to PPE.

SUMMARY

When preparing and storing food you should always remember the following tips:

- Shop with care. Check the use-by dates on products keep meat and poultry products in separate bags and do not let the raw flesh touch any other food products as you shop or transport them.
- Maintain the cold chain. Keep cold and frozen foods as cold as possible - wrap in newspaper or buy a small cooler bag to transport your cold and frozen foods home. When possible, leave grabbing cold products to the end of your shopping. Store all foods properly and quickly when you return.
- Always wash your hands before and after preparing foods. Wash with hot, soapy water. Keep dish cloths and hand towels regularly cleaned.
- Keep your kitchen clean. Use a mild solution of water and soap to clean your counters, cutting boards and utensils.
- Use separate chopping boards for preparing raw meat/poultry and vegetables. Keep these boards separate to avoid any possibility of cross-contamination of bacteria from meat to other food products. If you cannot keep separate chopping boards, make sure to disinfect a multi-purpose chopping board thoroughly after each use.
- Keep foods separated. At all times, keep raw meat, raw eggs and poultry away from cooked food, fresh fruits, and vegetables.
- Cook foods thoroughly, especially red meat, poultry and eggs. Cooking these foods all the way through will destroy harmful germs. Consult a cookbook and use a meat thermometer if you have any doubts about how long to cook something.
- Keep hot foods hot above 60°C and cold foods below 5°C. You should make sure your fridge is set at a temperature of 4°C or less.
- Reheat leftovers thoroughly before serving. Leftovers that have been reheated poorly can still contain active food pathogens. Moreover, if leftovers have become contaminated, no amount of reheating will make them safe. Any signs of discoloration, sliminess, growth of mould etc. are signals to discard or compost the leftovers. Do not keep leftovers for long. Never reheat leftovers more than once and never refreeze food without changing its state! (i.e. you can freeze raw food, defrost the raw food, cook the food, refreeze the cooked food, defrost/reheat the cooked food. If the reheated cooked food is left over, throw it away or there is a increase risk of illness!)
- You should store foods according to their needs. The type of storage is dependent on the type of food. Dry foods such as pasta, rice, lentils, beans, canned foods and cereals can all be kept in a cool, dry place such as a pantry or cupboards. Other foods can be trickier and care should be taken to store them in the appropriate manner:
- Place frozen items in the freezer within 2 hours of removing them from the freezer (though ideally this should be done sooner—put them away as soon as you get home).

- Meat, poultry, eggs, fish, pre-prepared meals, dairy products and leftovers should always be refrigerated.
- Meat, poultry, eggs, fish, pre-prepared meals, dairy products and leftovers should always be refrigerated.
- Many foods should be kept refrigerated or in a cool, dark place, such as a cellar or pantry, once opened. Read labels for storage details and instructions. If in any doubt, always err on the side of providing a cooler environment.
- All foods, regardless of their storage status, should be eaten quickly and within their use-by dates. Even spices and dried herbs lose their beneficial properties and flavours if kept too long and many items can become harmful if stored beyond their use-by date.
- Protect your food from insects and animals. This is also important during preparation and serving.
- Be extra careful during warmer weather. Food contamination from bacteria occurs much faster in warmer weather. If you are eating outdoors, ensure that everyone eats the food quickly and that leftovers are brought back inside within an hour to be stored in the cool again.



GLOSSARY

Term	Definition
Bacteria	Single celled micro-organisms. Some bacteria when in large numbers can cause food poisoning.
Biological hazards	Hazards which are living in food. These include bacteria, yeasts, moulds, viruses and protozoa.
Chemical hazards	Hazards caused by chemical contamination. These include some fertilizers, insecticides, cleaning products and naturally occurring poisonous foods.
Clean	To remove particles of food, dust, dirt or other contaminants.
Control point (CP)	A point in the food production process where loss of control may lead to an unacceptable health risk. It is advisable to have control and monitoring measures in place for control points.
Corrective action	The action taken when a critical limit of food safety has been breached. A corrective action should be carried out to rectify the breach in the food safety program and steps taken to resume control to reduce further incidences.
Critical control point (CCP)	A point in the food production process where loss of control may result in an unacceptable health risk. The point where the process must be monitored to ensure the safety of food.
Critical limit	The limit which identifies and separates acceptable food safety limits from those which pose a significant risk and are therefore unacceptable. These may include measured data such as temperature, time, moisture level and ph.
Cross contamination	The passing of microorganisms from contaminated food or surfaces to other foods or surfaces.
Danger zone	The temperature range between 5°C and 60°C where food poisoning bacteria grow and multiply, quickly to dangerous levels.
First in, first out (FIFO)	A stock rotation/storage system where the first or earliest received items are used first.
Food	Any solid or liquid substance which is used as a source of nourishment.
Food Act 2003 (NSW)	The Act of NSW Parliament which legislates the controls required for food on sale in NSW.
Food contamination	The presence of an unintended item, substance or microorganisms in food which can lead to illness and disease, when the food is consumed.

Food poisoning	Illness occurring when a person ingests contaminated foods or beverages.
Food safety hazard	Anything which may cause food to become dangerous or contaminated and harmful to a person if consumed.
Food safety procedures	The skills and tasks involved in purchasing, handling, preparing, storing and servicing of food in ways which prevent food borne illness.
Food safety program	A food safety program (or plan) is a document which systematically identifies the potential hazards or risks associated with the food handling operations of a business. A food safety program outlines the processes and procedures, to ensure all aspects of a food service operation are compliant and safe.
Food safety supervisor	A person nominated by a business who has completed specific food safety training, and who is the person with the authority to implement and supervise appropriate food safety procedures.
Food standards codes	Food standards codes are national standards published by ANZFA, which aim to improve food safety across Australia by using a preventative risk management approach.
Food Standards Australia New Zealand (FSANZ)	FSANZ is an independent statutory agency involving the governments of Australia and New Zealand. FSANZ is responsible for setting national standards for food safety, for all sectors of the food industry. Each state implements these national standards through state based legislation and initiatives.
Hazards	An item, condition, event or situation which could lead to a potential accident or harm.
Hazard analysis	Identifies hazards likely to occur at each stage of food handling. This is the first principle and step in a HACCP plan.
Hazard analysis critical control points (HACCP)	HACCP is a technique used in food safety planning. The HACCP seven principles are used to identify and control the risk of contamination at critical control points in food production processes.
Hazard identification	Recognising the risk of an item or situation which may lead to a potential accident or harm to a person.
Hygiene	Clean and sanitary conditions which promote health and safety.
Hygiene hazard	An item, condition, event or situation which could lead to food becoming unsafe to consume.
Health hazard	A disease of an infectious nature with the potential to contaminate food.
Hygiene procedures	Procedures which ensure food is safe and hygienically stored, prepared, and presented.

Material Safety Data Sheet (MSDS)	An information sheet designed by suppliers detailing correct procedures when handling a particular substance or chemical.
Microorganisms	One celled organisms which are too small to be seen by the human eye. Some examples are bacteria, yeast, mould, viruses and protozoa.
Monitoring	Monitoring describes the methods used to confirm that a food safety hazard is in control. For example, taking temperatures, collecting samples and conducting visual inspections.
Pest control	Actions designed to control and eradicate pests and vermin from workplaces.
Personal protective equipment (PPE)	Equipment and clothing items designed to protect the user from potential hazards or injuries whilst doing a task at work.
Physical hazards	Hazards to food which are caused by a physical attribute of the food. These can be foreign bodies (that are not meant to be in the food), such as glass, plastic, metal fragments) or physical parts of the food which could cause harm to a person, when consumed such as lumps or bones.
Ready to eat food	Food which is ready to be consumed in the same state as that in which it is sold or distributed.
Safe food	Food which is free from physical, chemical or microbial contaminants which may cause illness if consumed.
Sanitise	To apply heat and /or chemicals to a surface, to destroy microorganisms including disease causing bacteria.
Support programs	Support or prerequisite programs provide the basic environmental and operating conditions which are necessary for the production of safe, wholesome food. The pre requisite programs provide conditions necessary to protect food while it is being processed. Examples are cleaning and sanitising, pest control, approved suppliers, personal hygiene programs.
Temperature control	Using temperature to control or destroy microorganisms by keeping the food hot (above 60°C) or cold (below 5°C).
Unsafe food	Food which is likely to cause harm to a person who consume it.
Validation	The use of objective evidence in order to prove (or validate) that food is safe. Some examples of validation evidence could be industry codes of practice, scientific reports or legislation.
Verification	Reviewing all aspects of the food safety program and related records, to determine compliance with the food safety program.

NSW FOOD AUTHORITY MODULES

Your trainer will provide you with the following documents with this Learner Resource:

- Be Prepared Be Allergy Aware
- NSW FSS Food Act Offences

These will be provided in paper format or electronically. Alternatively, they can be downloaded from: <http://www.educatering.com.au/> under the Learner Resources tab.

The password is: *learner2015*