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VISION, VOICE AND PRACTICE

Level 3 Award in Supervising Food Safety and Hygiene

WELCOME !

Programme aims:

- Understand food safety hazards
- Understand food safety management controls
- Understand the role of the supervisor

Unit One: Understand food safety hazards

1. Describe the importance of food safety

2. State the risk to food safety from

- pathogenic microorganisms
- contamination and
- cross- contamination

3. State the consequences for food safety from

- biological
- chemical
- physical and
- allergenic hazards

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What is the role of a supervisor?

- Sound, practical knowledge of food safety
- Good communication skills
- Ability to listen to and mentor staff
- Achieving and maintaining :-
  - operational standards
  - product and quality standards
  - food safety standards

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The key objective for any food organisation is to provide:

SAFE FOOD

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What is food safety?

- The safeguarding of food from anything that could harm human health

What is food hygiene?

- All the practical measures involved in keeping food safe to eat, throughout all stages of handling

Why is food safety important?

Activity *: – State at least 6 reasons why food safety in important:*

Why is food safety important?

- To prevent food poisoning / illness
- For consumer confidence
- For the reputation of the organisation
- To meet legal requirements
- To avoid legal sanctions (fines / imprisonment)
- To minimise food loss
- To encourage a positive food safety culture

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Trends

‘At risk’ groups

Food poisoning symptoms

Trends in food illness

- Millions of cases of foodborne illness each year in the UK
- Reported cases of foodborne illness are decreasing
- Campylobacter is the most common cause of food poisoning in the UK
- Norovirus is one of the most common causes of infectious intestinal disease in the UK

(Food Standards Agency 2018 & 2022)

Who is most "at risk"?

- Infants
- Pregnant women
- Elderly people
- People with weakened immunity

Common symptoms of food poisoning

- Nausea
- Vomiting
- Diarrhoea
- Stomach pain
- Dehydration

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Hazards : Contamination

Contamination of Food:-

“The presence of something harmful or objectionable in food which makes it unsafe to eat”.

Contamination of food – the hazards

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Microbiological

Bacteria and their toxins, viruses, moulds, yeasts

Chemical

Examples: bleach, insecticide, poisonous plants, poisonous toadstools

Physical

Examples: bone fragments, glass, stones, hair

Allergenic

Some people are very sensitive to certain foods (eg peanuts, tree nuts, milk, eggs)

Contamination of Food - Physical hazards

Please give some examples of the following physical hazards…….

- **Natural –**
- **Food Handler –**
- **Equipment –**
- **Premises –**
- **Pests –**

Physical hazards

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Sources:
Natural – shell, feather, bone, stalks, stones

Food Handler – false nails, jewellery, hair, button, pen top, plaster

Equipment – nuts, bolts, screws, wood, foil

Premises – wall pins, light fittings, glass, paint flakes, packaging material

Pests – droppings, larvae, eggs, insects, fur, feathers, dead bodies

Consequences:
Customer complaints, cuts to mouth, broken teeth, choking, death

Physical hazards

Some Controls:

- Keep food covered
- Follow cleaning and housekeeping rules
- Follow food handler uniform and hygiene policies
- Effective pest control
- Maintenance of buildings and equipment
- Detection of physical hazards in food manufacturing lines

Contamination of Food - Chemical hazards

Please give some examples of chemical hazards…

Chemical hazards

Sources

- Pesticides/insecticides
- Food handler – makeup, strong soap/perfume
- Cleaning materials
- Veterinary drugs
- Plasticisers from cling film
- Poisonous plants,
- Poisonous toadstools
- Food stored in open cans

Consequences

Unpleasant food taste, skin rash, stomach irritation, breathing difficulties, poisoning, corrosive burns and death

Chemical hazards

Some Controls:

- Wash fruit, salads and vegetables
- Use approved suppliers of food
- Store cleaning chemicals away from food
- Follow recommended cleaning instructions
- Follow expert pest control advice

Contamination of Food - Allergenic hazards

- The body's immune system reacts to a food (ingredient) that is harmless to most people
- Around 1-2% of adults and 5-8% children have a food allergy
- The food that causes the response is known as an allergen
- Tiny amounts can trigger extreme allergic reactions
- This is known as ANAPHYLAXIS

Why does anaphylaxis occur?

- The body is reacting to a substance that it wrongly perceives as a threat
- The allergic antibody (igE) and the allergen react to each other causing anaphylaxis
- Sudden release of chemical substances (including histamine) causes the symptoms

14 “Regulated” Allergens

- Peanuts
- Soya
- Wheat/gluten
- Mustard
- Celery
- Sulphites
- Lupin
- Molluscs
- Eggs
- Sesame seeds
- Milk
- Fish
- Crustaceans
- Sesame

Identifying food allergens?

Activity – Identify the possible food allergens in the following foods:

- Sausages
- Stock cubes
- Chicken korma
- Salmon and cream cheese bagels
- Tuna and egg salad
- Prawn stir fry

Contamination of Food - Allergenic hazards

Consequences:

- Wheezing / severe asthma
- Difficulty in swallowing
- Swelling of throat and mouth
- Flushing of skin / rashes
- Sudden feeling of weakness (due to drop in blood pressure)
- Sickness, nausea and abdominal pain
- Collapse and loss of consciousness
- Death

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Allergen information should be:

- **Accurate**
- **Available**
- **Accessible**

Communicating allergen information:

- Information on menus and chalkboards
- Allergen information on signage
- Tell your customers where or how to get the information
- Train staff on company's allergen procedures and how to respond if a customer has a food allergy
- Legally, the presence of the 14 "regulated" allergens must be highlighted in the ingredient list on food labels of all pre-packed foods

Communicating allergen information:

Check *menus* for food allergens

Check labels of *prepacked foods* for food allergens

Check *recipes* & *ingredients* for food allergens

Can any food allergen be removed or changed?

Communicate the information to *all* staff

Contamination of Food - Allergenic hazards

How do we protect food from these hazards?

- Consider where allergenic hazards come from
- Ensure staff are fully aware of content of dishes
- Only purchase food from authorised sources
- Keep food covered
- Prevent food from becoming contaminated by traces of allergens

Contamination of Food – Biological hazards

What are the sources of biological (& microbiological) hazards?

Sources of Biological hazards

- **Mycotoxins: poisons/toxins produced by moulds**
- **Viruses: tiny pathogens that multiply in their 'host'**
- **Parasites: a life form living in, or on, their 'host'**
- **Pathogenic bacteria: disease producing organisms**

Bacterial contamination is the major cause of food poisoning

Sources of Food Poisoning Bacteria

Pests

Raw meat, poultry, eggs and shellfish

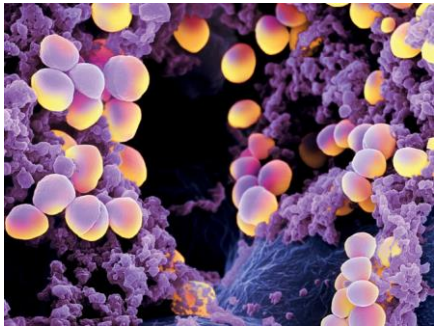
Waste food and dirt

Soiled fruit and vegetables

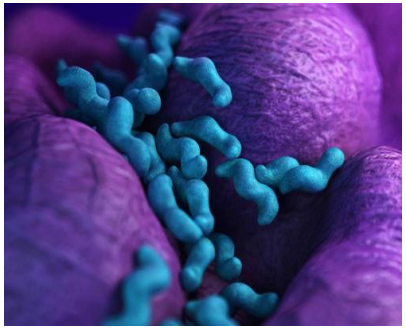
Food handlers

Food Poisoning Bacteria As Seen Through a Microscope

Clostridium Perfringens

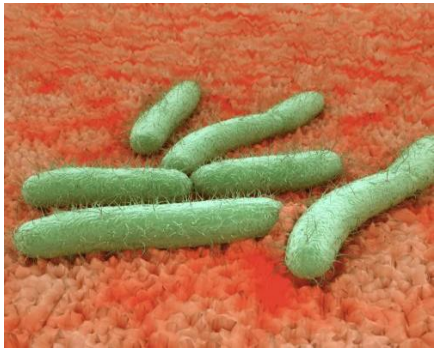


Staphylococcus aureus



Campylobacter

Salmonella



Escherichia coli

Contamination of Food - Biological hazards

Consequences:

- Food spoilage
- Food poisoning
- Death

Contamination of Food – Biological hazards

How do we protect food from these hazards?

- Consider where pathogenic hazards come from
- Look at raw food, dirty food & waste
- Look at staff!
- Keep food covered
- Cleaning and disinfection

Poisonous foods!

- Potatoes with green skin
- Scombrotoxic fish poisoning (histidine converts to histamine)
- Wild mushrooms (specific varieties)
- Rhubarb leaves
- Dried red kidney beans (must be boiled in fresh water to destroy toxin)
- Internal organs of fish (e.g. puffer fish)

Food Spoilage

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- Food becomes unfit to eat due to action of bacteria, moulds and yeasts (e.g. mouldy bread, slimy fish, sour milk)
- Food changes include changes in :-
    - Smell
    - Appearance
    - Colour
    - Taste
- Gas can be produced (e.g. “blown” cans)

Spoilt food is unfit to eat and should not be sold.

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Growth needs of bacteria

Bacteria - growth needs?

- Food
- Moisture
- Warmth
- Time

Many also have specific requirements for:-

- Acidity and alkalinity
- Oxygen

Bacteria growth needs – food

Characteristics of “High Risk Foods"

- Normally “ready to eat foods“ providing nutrients for bacteria
- Support the growth of pathogenic bacteria
- Usually high in protein and moisture
- Must be stored at safe temperatures
- Intended for consumption without further treatment

High Risk Foods

Cooked meat and poultry; cooked meat products; gravy, soup and stock

Milk and eggs, and dishes made from them

Cooked / prepared shellfish & seafood

Cooked rice

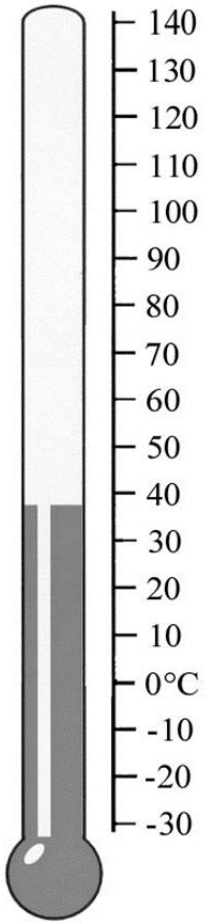
Which of these are High Risk Foods?

- Celery stick
- Cooked beef lasagne
- Paella
- Orange juice
- Egg sandwich
- Digestive biscuit

Bacteria growth needs – moisture

- Most bacteria need water to survive
- Water is vital to transport nutrients
- The amount of moisture in food which is available to bacteria is measured in terms of the food's Water Availability (a_w)

Temperatures and Bacterial Growth



121 °C - 130 °C Spores killed

Cooking 75 °C

DANGER ZONE 5°C - 63°C
Body Temperature 37 °C
Room temperature 17 °C - 20 °C
Refrigerator 1 °C - 4 °C
Freezer - 18 °C

Bacteria growth needs – warmth

- Bacteria have optimum temperatures where growth is rapid
- Fastest multiplication is between 20°C and 50°C
- Most bacteria grow best at 37°C
- Danger zone is 5°C to 63°C

Bacteria growth needs – warmth

Temperature Danger Zone

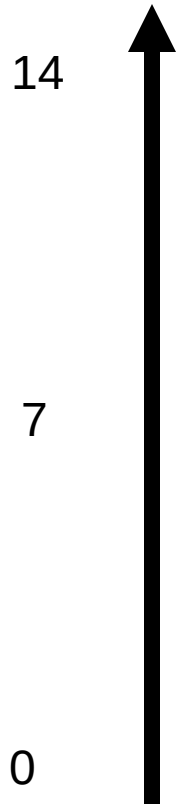
5°C----------63°C

- **If food is at or within these temperatures, bacteria will grow**

- **The bacteria can produce toxins/poisons which can result in illness**

Bacteria growth needs – pH

pH measures acidity or alkalinity in food
The pH scale ranges from 0 to 14



- **pH above 7 is in the alkaline range**
- **pH 7 is neutral (water is pH7)**
- **pH below pH 7 is in the acidic range**

Bacteria growth needs – pH

- **Most bacteria will not multiply in a pH below 4**
- **Acidity can support the preservation of fermented foods**

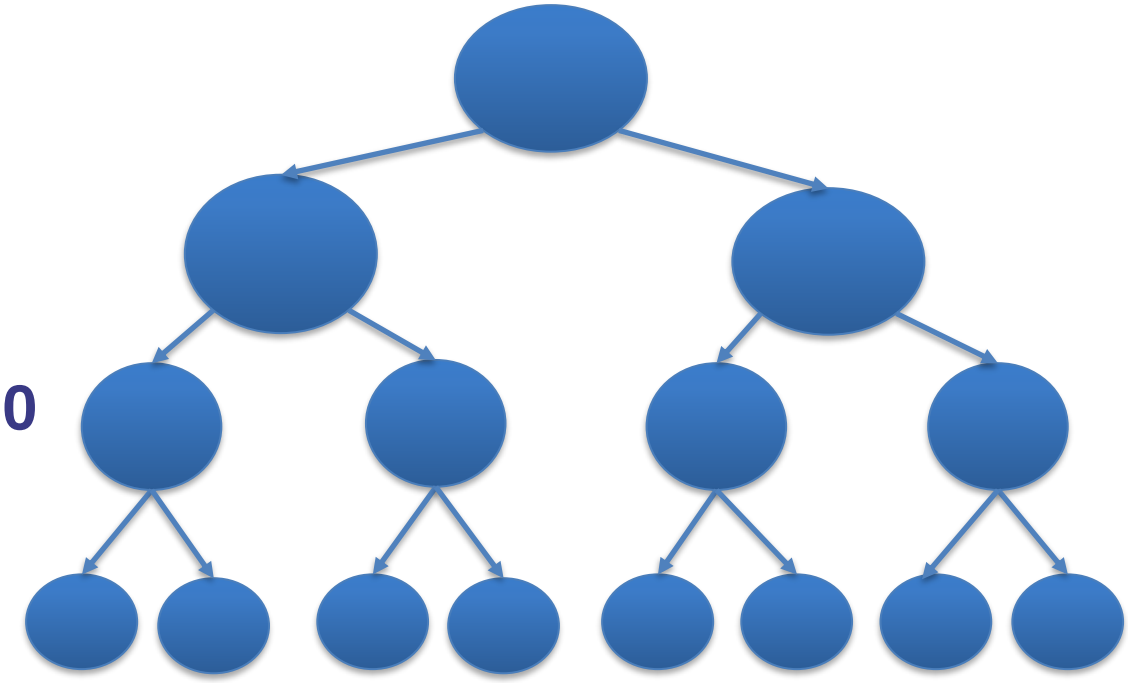
Bacteria growth needs – oxygen

- Oxygen is generally present in food due to water content
- Some bacteria need oxygen – aerobes
- Some bacteria can only multiply when there is no oxygen – anaerobes
- Some bacteria can multiply with or without oxygen – facultative anaerobes

Bacteria growth needs – time

Binary Fission

Under the right conditions, each bacterial cell can multiply every 10-20 minutes



Some ways in which harmful bacteria get into food we eat……

…from your bowels due to handling food after using the toilet without washing your hands

…or being transferred from raw food to cooked or prepared food we are going to eat

Cross contamination

Cross contamination

The transfer of bacteria from raw or dirty food to cooked or clean food

Cross contamination

- **Bacteria cannot travel independently**

- **They need a vehicle to travel the route from the bacteria source to the food**

Cross contamination

Vehicle:

Things on which the bacteria travel

Route:

The path along which bacteria travel

Bacteria source → vehicle/route → food

Cross contamination!

***Activity* –**

State three vehicles of cross contamination

Cross contamination!

Vehicles of cross contamination:

- Chopping boards
- Knives
- Food temperature probes
- Cleaning cloths
- Hands
- Kitchen utensils (e.g. tongs, spoons)
- Hand contact surfaces (e.g. door handles)
- Food contact surfaces (e.g. table tops)

Prevention of cross contamination

- Assume all "sources" are contaminated by bacteria - poultry, food handlers, etc.
- Raw / soiled foods should be handled in separate areas
- Vehicles must be controlled by:
  - minimal handling and effective hand washing
  - disposable or clean cloths
  - thorough cleaning
- Interrupt the route by:
  - time / plan of work
  - colour coded equipment

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Summary Of Unit One

- Definition and reasons for food safety
- ‘At risk’ groups
- Symptoms of food poisoning
- Food safety hazards – sources and consequences
- Protecting food from contamination
- Bacteria growth needs
- High risk foods
- Binary fission
- Temperature danger zone
- Cross contamination

Unit Two:
Understand food safety management controls

1. Explain how food business operators can ensure compliance with food safety legislation
2. Describe procedures for the application and supervision of good hygiene practice
3. Outline requirements relating to the design of food premises and equipment
4. Describe methods and procedures for food safety management

Food safety law

Food safety legislation

Mainly concerned with:

- **Preventing the production or sale of unsafe food**
- **Preventing the contamination of food**
- **The hygiene of premises, equipment, and personnel**
- **Temperature control**
- **The implementation of food safety management systems**
- **The provision of water supplies and washing facilities**
- **The control of food poisoning**
- **The registration of food premises**

Food safety legislation

Regulation EC 852/2004:

- Register food business with local authority
- Supervise, train and instruct food handlers
- Food prepared and sold in a hygienic manner
- Develop, implement and maintain procedures based on HACCP principles
- Also covers thawing, cold storage and cooling of food

Food safety legislation

- Food Safety Act 1990
- The Food Safety and Hygiene (England) Regulations 2013
- The Food Hygiene Regulations (Northern Ireland) 2006
- The Food Hygiene Regulations (Scotland) 2006
- The Food Hygiene Regulations (Wales) 2006
- The Food Information Regulations (2014)
- Temperature controls
- Enforcement

Consequences of poor standards

Activity:

State 5 possible consequences of a food business having poor standards of food safety.

Food safety legislation

Effects of poor standards and non-compliance

- Damage to reputation / brand image
- Complaints
- Loss of working days / productivity
- Civil action by those affected
- Food loss
- Food employees lose work / become ‘carriers’
- Demotivates staff
- Enforcement action
- Closure of food premises
- Fines / imprisonment

Food safety legislation

Who enforces?

- **Environmental Health Practitioners (EHPs) from Local Authority**

Their role?

- **Ensuring that those dealing with food understand how to produce safe food and comply with the law**
- **Investigating complaints**
- **Carrying out inspections**
- **Investigating food poisoning cases/suspected cases**

Trading Standards Officers:-

- **Mainly concerned with issues relating to food standards**

Food safety legislation

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EHPs can:

- **Inspect, seize or detain unfit food**
- **Take samples of food and photographs**
- **Interview staff**
- **Expect to enter at reasonable time**
- **Inspect, seize & detain records**
- **Serve notices**
- **Recommend prosecution**

Food safety legislation - enforcement

Hygiene improvement notice

- Served by EHP for failure to comply with food law
- The notice must state grounds for non-compliance
- The notice must detail the violation
- The notice must clarify what needs to be completed & timescale (not less than 14 days)
- Failure to comply is an offence

Food safety legislation - enforcement

Hygiene emergency prohibition notice/order

- The notice requires immediate closure of premises
- The notice is served where there is an imminent risk to health
- Copies of both the notice (& order) must be served on the operator and clearly displayed
- Once served, the local authority must apply within 3 days to have the action confirmed as an order

Food safety legislation – Due Diligence

- A defence of ‘due diligence’ was included in legislation to support food businesses (regulation 852/2004)
- It is a defence to prove that all reasonable precautions were taken to avoid an offence
- Due Diligence – due care – was employed to avoid the offence
- This requires documented evidence

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Documents that could support a Due Diligence claim

- Temperature monitoring records (fridges, etc.,)
- Cleaning schedules
- Records of customer complaints (& how they were dealt with)
- Food purchase details and supplier audits
- Staff training and sickness records
- Pest control records
- Food safety management system records

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Legal responsibilities of food handlers

- Identify and report food safety hazards
- Keep themselves clean
- Keep the workplace clean
- Food handlers have a legal duty to make sure food is safe and does not cause harm or injury to the consumer
- Wear appropriate Personal Protective Equipment (PPE)
- Do everything they can to keep food safe
- Follow workplace rules
- Report if they or anyone in their family is ill
- Keep records

Legal responsibilities of food business operators

A food business must not be carried on in insanitary premises

- Large fines and even imprisonment for breaking the law

Proprietors and owners must ensure that premises are:

- Registered with the local authority
- Properly maintained
- Adequately supplied with clean water
- Well lit and well ventilated
- Supplied with suitable facilities for personal hygiene
- Provided with suitable facilities for washing utensils, equipment and food
- Equipped with first aid materials

Industry guides

- The food industry has produced a series of guides.
- These publications provide guidance in good hygiene practice.
- The use of these guides is voluntary.
- There is no legal requirement for food businesses to follow the advice contained in them.
- If a food business does follow the guidance, any enforcement authority must take this into account when assessing compliance with legislation.
- Also look at any relevant codes of practice

Industry guides

- Industry guides are listed on the FSA website
- https://www.food.gov.uk/business-guidance/industry-guides-to-good-food-hygiene

These include guides to :

- Catering
- Sandwich manufacturing
- Vending and dispensing
- Mail order food

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Temperature control

Significant Temperatures

- **121°C** - temperature which is needed to kill spores
- **82°C** - temperature for reheated foods in Scotland
- At least **70°C for 2 minutes / 75°C for 30 seconds** – recommended temperature and time required to ensure thorough cooking of food
- **63°C** - minimum temperature at which cooked foods must be kept hot until serving
- **37°C** – human body temperature and the temperature at which most bacteria can grow very quickly
- **5 to 63°C** - Temperature Danger Zone
- **1 to 4°C** - temperature range for a refrigerator
- **-18 to -25°C** - temperature range for a freezer

Temperature Danger Zone

5°C ----------63°C

- **If food is at or within these temperatures, bacteria will grow**
- **The bacteria can produce toxins/poisons which can result in illness**

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Reheating Food – best practice

- Keep food refrigerated until you reheat it
- Handle as little as possible
- Divide into small portions
- Heat thoroughly to a high core temperature – the food should be 'piping hot' (75ºC - or 82ºC in Scotland)
- Serve immediately
- Only reheat once; throw away any leftovers

Cooling down hot food – best practice

- Find a cool place and remove from cooking dish
- Place food in cold shallow containers
- Loosely cover food (to protect)
- Rinse in clean (“potable“) cold water
- Aim to cool from 55ºC to 20ºC within 2 hours
- Use of water baths / fans / blast chillers…

Display & transportation of food

Display

- Hot food should be stored at least 63ºC
- Hot food is allowed to fall below this temperature for a MAXIMUM of 2 hours

- Cold food should be no more than 8ºC
- Cold food is allowed to exceed this temperature for a MAXIMUM of 4 hours (on one occasion)

Transportation

- Maintain the “cold chain”

Keep hot food hot, keep cold food cold!

Cook / chill

- Food is thoroughly cooked to at least 75^{o}C
- Chilled rapidly (63^{o}C or below) within 1.5 hours)
- Stored between 1^{o}C and 4^{o}C
- Reheated (regenerated) to at least 75^{o}C

Is Your Fridge Safe?

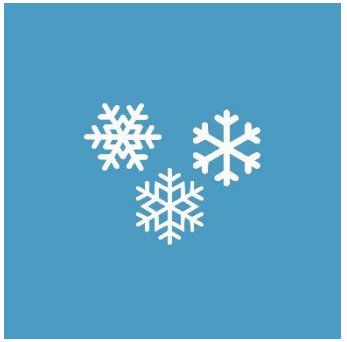
- Store raw and cooked foods in separate units if possible, or store raw foods below cooked foods
- No hot food in the fridge - cool it quickly within 2 hours
- Cover all food and don't overload the fridge
- Check the temperature is 1 to 4^{o}C
- Keep the door closed as much as possible
- Keep the fridge clean and defrosted
- Use of walk-in cold rooms, especially in food manufacturing/ processing

Bacterial Spores

- Some bacteria can protect themselves from high temperatures
- The spore is a coat or shell that protects the bacteria
- Spores survive heat/normal cooking
- Spores survive dehydration & disinfection
- Spores are only killed in canning process: 121^{o}C
- Spores germinate during long, slow cooling

Freezers

- Check freezer temperatures (-18 to -25^{o}C)
- Micro-organisms do not replicate in freezers, but they can survive freezer temperatures
- Follow date marks on frozen foods
- Keep food outside freezer temperatures for a minimum time (e.g. when transferring stock to freezer)



When thawing raw meat and poultry:

- Plan well ahead
- Place the frozen food in a container
- Cover thawing food
- Avoid cross-contamination from thawing food
- Thaw completely and cook as soon as possible
- Once thawed, never refreeze

Your role in supervising temperature control

- Ensure that equipment is fit for use
- Clear policies and procedures
- Induction AND refresher training
- Implement & communicate policy via training, 1-2-1s & team meetings
- Monitor:
  - implementation of procedures
  - question staff
  - check temperature records

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Personal hygiene

Personal hygiene

High standards are essential to prevent contamination and food poisoning.

The law requires:

- **Food handlers to maintain a high standard of personal cleanliness**
- **Food handlers to wear suitable clean, protective clothing (as appropriate)**
- **Food handlers to be trained & supervised in food hygiene matters (as relevant)**
- **Food handlers to be excluded from food handling if infectious**

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Hazardous hands are:

- Dirty hands
- Hands with long nails
- Hands with nail varnish and false nails
- Hands wearing jewellery (with the exception of a plain wedding ring)
- Hands with cuts and wounds that carry germs

Hazards from food handlers

- Staphylococci, E.Coli, Salmonella……..
- Hands, nose, mouth, ears, hair
- Cuts, boils, lesions, skin infections
- Smoking & eating
- Jewellery & strong perfume

Hand Washing

Requirements for hand washing equipment and facilities:

- **separate designated hand wash basins**
- **hot and cold (or appropriately mixed) water**
- **liquid soap**
- **materials for hygienically drying hands**
- **suitable signage**

Always to wash your hands:

- Before handling food
- After using the toilet
- After handling raw foods
- After cleaning
- After handling rubbish
- After blowing your nose or coughing / sneezing into your hands
- After a break
- And when they look dirty!

Good Hygiene Practice

- **Wherever possible avoid handling food with bare hands**
- **Whenever it is possible, use tongs or other utensils to handle food**

Protective Clothing:

- Protects food from contamination
- Completely cover ordinary clothing
- Preferably no pockets!
- Press studs or velcro fastening
- Kept clean and in good condition
- Not worn outside the premises
- Different protective clothing may be worn in different food areas
- Procedure to follow when putting it on…….

Personal hygiene?

***Activity* - draw up a list of 6 'rules' that you would expect food handlers to follow regarding personal hygiene.**

Prevention of Contamination of Food by Food Handlers

Food handlers must:

- Avoid exposing food to the risk of contamination
- Report if suffering upset stomachs, colds or coughs
- Keep cuts covered with detectable waterproof dressings
- Not smoke or spit in the food area
- Wear protective clothing
- Keep themselves and their protective clothing clean
- Report any food safety hazards
- Follow workplace rules

Your role in supervising personal hygiene

- Lead by example!
- Suitable facilities and supplies
- Induction AND refresher training
- Implement & communicate policy via, 1-2-1s, training & team meetings
- Monitor: question staff, swab tests of hands, check sick reporting records

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Pest control

Pest control

Pests are sources of microbiological and physical hazards

Pests contaminate food via their:
- **faeces & urine**
- **saliva**
- **contact with their bodies (fur, feet)**

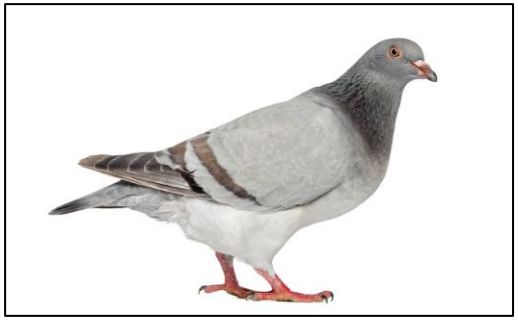
Other issues:
- **damage by gnawing**
- **food wastage**
- **results in prosecution**
- **poor image to customers**

Common Food Pests

Rodents

Flies

Cockroaches



Birds

Domestic Pets

Pest control

Rodents
- Rats
- Mice

Birds
- Pigeons
- Sparrows
- Seagulls

Insects
- Flies
- Cockroaches
- Pharaoh ants
- Stored product insects

Pest Control: Three Point Strategy

Pests are looking for food, warmth and shelter (harbourage).

3 point strategy:-

- **Preventing access**
- **Denying pests favourable conditions**
- **Reporting signs of pests**

Pest Control: Preventing Access

- Keep doors and windows closed
- Keep premises well maintained
- Use fly screens on windows
- Check deliveries for pests
- Find the ways pests gain access, then prevent entry

Finding Pests

Signs of pests:

- **Seeing live animals**
- **Droppings and greasy trails**
- **Marks on food**
- **Small mounds of food debris**
- **Nibbled wrappings, holes in cardboard boxes**
- **Pest carcasses**
- **Unusual smells and noises**
- **Damage to woodwork - mice and rats gnaw**

Protect your food!

- ✓ Store food carefully
- ✓ Keep food covered
- ✓ Keep all areas clean AND tidy
- ✓ Remove food waste quickly
- ✓ Keep outside and inside bins covered
- ✓ Remove any sources of water
- ✓ Remove any sources of bedding – avoid paper or cardboard
- ✓ Rotate food stocks and check storage areas
- ✓ Keep equipment and appliances clean

Your role in supervising pest control

- Train staff to recognise infestation
- Train staff to prevent conditions that could allow for pest infestation
- Monitor external pest control personnel
- Monitor planned maintenance
- Audit:
  - no signs of pests
  - premises are proofed against entry
  - deliveries are checked for pests

Pest control

***Activity* - list six ways of preventing or discouraging rodents from entering food premises.**

Waste control

Examples of waste in a food business

- Waste / spoilt food
- Food past its “use by” date
- Packaging
- Used cooking oil
- Animal by-products
- Contaminated water
- General rubbish

Storage & disposal of waste

- Accumulated waste creates a food safety hazard
- Waste food must be kept separate from paper, etc
- Waste food must be removed at least daily from food area
- Separate waste / spoilt food from food intended for consumption
- External bins & area must be secure and regularly cleaned
- External bins must be stored off of ground
- Bins should have close fitting lids

Food safety hazards resulting from poor waste storage

- Attracts pests
- Unpleasant odours
- Difficult to clean if there is a build up of food waste
- Contamination of food due to exposure to microbiological, physical, chemical or allergenic contaminants
- Multiplication of bacteria

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Cleaning and disinfection

Cleaning

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‘It looks & smells clean…….’ – but is it?

The consequences of poor cleaning:

- Physical, chemical, allergenic and microbiological contamination hazards
- Cross-contamination can take place
- Corrosion of equipment
- Premature replacement of equipment
- Equipment breakdowns
- Possible wastage of cleaning materials

Cleaning

'The systematic application of energy to a surface or substance, to remove dirt'.

Three forms:

- **Kinetic energy (physical/mechanical)**
- **Thermal energy (hot water)**
- **Chemical energy (detergents)**

A combination is normally used.

Cleaning and Disinfection Chemicals

- Detergents
- Disinfectants
- Sterilisers
- Sanitisers

Always follow the manufacturer's instructions

Cleaning - Detergents

Detergents remove grease and other soil. They are not designed to kill micro-organisms.

They should be:

- **harmless to handlers**
- **non-toxic**
- **easy to rinse**
- **odourless & tasteless (non-tainting)**

Characteristics:

- **surfactancy (reduces surface tension of water)**
- **dispersion (enables detergent to 'lift' dirt)**
- **suspension (prevents re-deposition of the dirt)**

Disinfection

Disinfection: Reduces bacteria to a safe level.

Steam

- **lances producing steam jets**
- **useful for machinery or difficult to clean surfaces**

Heat

- **82 ^{o}C for 30 seconds**
- **advantage of not leaving odour or taste (non-tainting)**

Chemicals:

- **must not taint food**
- **often have a "contact time"**

Cleaning and disinfection: Sanitisers

- A sanitiser has the properties of a detergent and disinfectant combined
- Often have a “contact time” to be effective

Cleaning Chemicals

- Should be fit for purpose
- Keep in original containers (for safety & retaining instructions)
- Staff should be trained (& reminded) how to use them
- Store separately, away from food areas
- Do not mix (they could react or neutralise)
- Protective clothing and personal protective equipment must be worn when necessary

Types of Cleaning

- Clean-as-you-go
- Scheduled cleaning
- 2 – stage cleaning
- Cleaning-in-place
- Cleaning-out-of-place

A cleaning schedule?

Activity - what should a cleaning schedule specify?

Cleaning

A cleaning schedule?

- What is to be cleaned
- Who is to clean
- When (frequency & actual date)
- How (chemicals / equipment)
- Safety precautions /protective clothing
- Who will monitor that it has been cleaned

Cleaning best practice (1)

- **Working surfaces, equipment and utensils used for preparing food must be thoroughly cleaned to avoid contamination**

- **Pay particular attention to hand contact and food contact surfaces**

Cleaning best practice (2)

- Keep cleaning equipment in good condition
- Use disposable cloths when possible
- Option to use colour-coded cleaning equipment for different areas

Cleaning supervision

Your role in supervising cleaning

- Planning & organising
- Suitable facilities and supplies
- Induction AND refresher training
- Implement & communicate policy via training, 1-2-1s & team meetings
- Audit to verify that cleaning is effective!
- Monitor: use & storage of chemicals, cleaning schedules, observations, swabbing……
- Ensure records are kept

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Food storage control

Food storage for dry goods

- Storage areas should be cool, dry, clean and ventilated
- Check deliveries on arrival
- Store food off the floor
- Rotate stock: First In, First Out (FIFO)
- Keep food covered
- Do not use damaged tins
- Dispose of unfit food safely
- Check storage areas regularly

Expiry date marking of food

All pre-packed food should come with an expiry date on the label, either:-

‘Use by’

or

‘Best before’

Expiry date marking of food

‘Use by’ mark:-

- High risk / highly perishable foods
- It is a legal offence to sell ‘Use by’ foods beyond the specified date
- A significant food safety risk if eaten after date expiry

Date marking

Activity - which of the following food should carry a 'Use by' date?

1. Sushi
2. Cherry cheesecake
3. Tin of chicken soup
4. Custard cream biscuits
5. Custard tart
6. Chicken Caesar salad
7. Lamb biryani ready meal
8. Prawn cocktail crisps

Expiry date marking of food

‘Best before’ mark:-

- Foods with longer shelf life
- Applied to canned, dried or frozen foods
- Not an offence to sell these foods beyond the specified date
- Food quality is affected beyond this date

Traceability

- Need to identify suppliers and / or customers, if unsafe food is received or produced

- Product recall procedures to remove unsafe product from the supply chain

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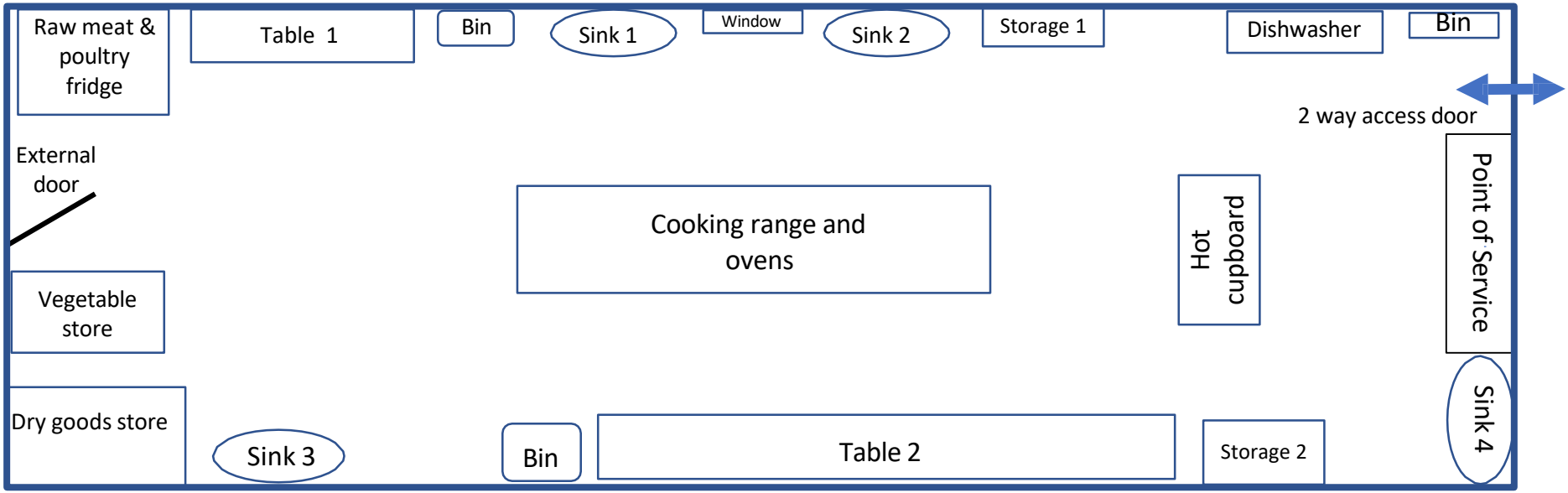
Food premises

Design and lay-out of food premises

Well designed and maintained premises:

- **Help prevent contamination and cross contamination of food**
- **Ensure premises are easy to clean**
- **Help to reduce pest infestations**
- **Ensure staff can maintain hygiene standards**

Jasmine's Chicken Smokehouse



The above kitchen floor plan is of Jasmine's new restaurant, 'Jasmine's Chicken Smokehouse'. Jasmine wants to make sure that the kitchen is suitable for providing safe food. She will be serving freshly made hot Jerk chicken, hot rice, cold salad and pineapple cake.

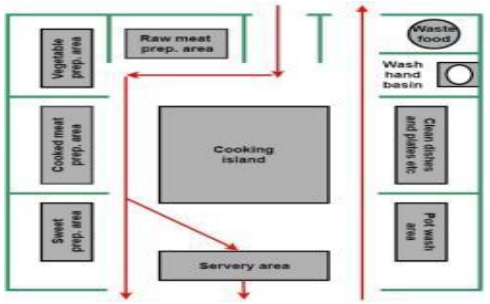
1. **The chicken will require marinating before cooking - which table should it be prepared on?**
2. **On which table should the salad and pineapple cake be prepared?**
3. **Where should the cleaning materials be stored?**
4. **A separate wash hand basin is needed but due to plumbing issues, one of the existing sinks will have to be converted. Which one of the existing sinks would be in the best location to convert to wash hand basin?**
5. **When the rice is cooked for service, where should it be immediately stored?**
6. **Jasmine has two fly killers to install – where is the best place for them?**

Answers:

1. Table One (near storage area)
2. Table Two (away from raw food)
3. Storage One (near two sinks and dishwasher)
4. Technically, no definitive *correct* answer, but Sink Two preferred, due to being in the middle of the kitchen and proximity to service area
5. Hot cupboard
6. Above the external door, and 2 way access door

Food premises: Lay-out

- Work flow should be linear
- Raw / dirty processes separated from cooked ("clean") procedures
- Facilities for personal hygiene
- Need to be capable of being cleaned
- Pests denied access food, water & harbourage
- Suitable provision for staff welfare



Food premises: Construction

- Materials to be non-toxic, durable, easy to maintain & clean
- Light fittings to be covered
- Structure to be well insulated (to avoid mould & condensation)
- Avoid cavities
- Surfaces to be smooth, impervious, durable and capable of being cleaned
- Water resistant grouting/fungicidal paint may be used
- Crash rails / wall & floor stops to avoid damage

Food premises

Doors and windows:

- All surfaces capable of being cleaned
- Use fly screens
- Sloping internal window sills
- Door handles & finger plates capable of being disinfected
- Swing doors with kick plates
- Self closing doors
- External doors proofed against pests

Food premises

Handwashing facilities:

- **Basins near entrances to food areas**
- **Easy accessible & not obstructed**
- **Signs indicating they are for handwashing only**
- **Hot and cold (or appropriately mixed) water, soap, drying facilities**
- **Washbasins designated only for washing hands**
- **Mixer and non-hand operated taps are preferable**

Food premises

Equipment:

- **It should avoid product contamination**
- **Capable of being cleaned**
- **Consider use of separate equipment for raw and ready to eat food**
- **Sited to allow for cleaning**
- **Sited to minimise cross contamination**
- **Preparation areas to be joint free & impervious**

Food premises

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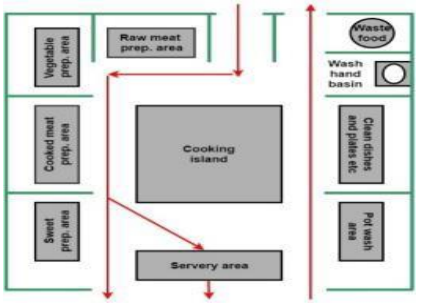
Toilet facilities:

- **All new premises should be provided with adequate staff toilet facilities, which are ventilated & well lit.**
- **Staff toilets must not open directly into an area where food is prepared.**
- **Staff areas should allow for thorough cleaning**
- **Suitable and sufficient washing facilities must be provided at accessible places.**
- **Sufficient storage for outdoor clothing and footwear must be available.**

Your role in supervising maintenance

- Supervise external contractors
- Check for effective cleaning
- Planned maintenance
- Monitor: damage to premises or facilities, maintenance records, cleaning schedules……



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Food safety management

What is Food Safety Management?

- **Food safety management is directing, or controlling, food safety to ensure that food is safe to eat.**

- **To do this effectively, we need to learn from the most common causes of food related illnesses…..**

Food related illness

The main causes of foodborne illness are:

1. Preparing food too far in advance
2. Storing food at ambient (unsafe) temperatures
3. Inadequate cooling
4. Inadequate reheating
5. Undercooking
6. Inadequate thawing
7. Cross contamination
8. Improper hot holding
9. Infected food handlers
10. Raw food consumed
11. Use of contaminated ingredients

Food Safety Management System

- A food safety management system (FSMS) needs to be developed, implemented and maintained to manage these issues.

- Food businesses have a legal duty to implement an effective food safety management system based on HACCP principles.

What is a HACCP based food safety management system?

Hazard
Analysis
Critical
Control
Point

- **Documented procedures that cover all food safety hazards and the required controls in the food operation**

HACCP – the background

- HACCP was conceived in 1950s
- US National Aeronautics and Space Administration (NASA) asked Pillsbury to design and manufacture ‘safe’ food for space missions
- NASA was already using a risk assessment process in engineering – which was then applied to food safety

HACCP – how does it work?

- **HACCP has been recognised internationally as a reliable food safety management system**
- **Based on risk assessment**
- ***Predicting risk* – not relying on end point testing**
- **It is a *preventative* approach**

HACCP – what does it mean?

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Hazards?

- **A microbiological, chemical, physical or allergenic hazard**

Control Points?

- **A step in a process/recipe in which a control should be applied – which will prevent or reduce a hazard to an acceptable level**

- **There can be a number of control points but not all are critical to controlling the hazard**




So what are Critical Control Points (CCPs)?

- An essential step in the process/recipe in which control can be applied
- It is vital that CCPs are only designated to those steps that are truly critical to food safety
- Keep CCPs to a minimum to focus attention on the essential controlling factors
- A CCP is often the final chance to minimise a food safety risk

How is this measured?

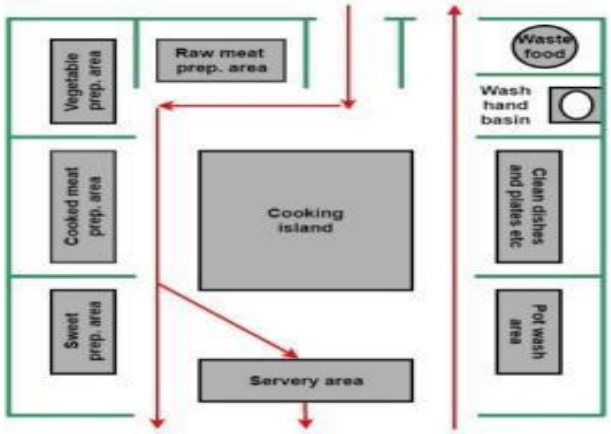
- CCPs will often have critical limits
- A critical limit must be a value
- The value must be measurable
- Examples are a temperature or a time…….

E.g. Cook until 75^{o}C for 30 secs

- If control is lost at the CCP, a corrective action must be applied or food may need to be destroyed as waste

The HACCP plan

- Details of the HACCP team
- The scope of the HACCP plan / details of product
- A floor plan
- Flow diagram of the food process
- Analysis of hazards
- Control Points
- How CCPs were agreed
- Critical limits
- Verification plans



Reviewing the HACCP plan

- **Regularly review the HACCP plan**

Examples of triggers for additional reviews:-

- **New processes introduced**
- **New pieces of equipment**
- **New raw material or recipe**
- **New legislation or guidance introduced**
- **Following a food safety problem or customer complaints**

The food business must already be operating Good Hygiene Practice (GHP).

Prequisite programmes must be in place:

- Management commitment
- Cleaning schedules
- Effective maintenance
- Suitable premises & equipment
- Workflow that minimizes cross contamination risk
- Pest management
- Waste and drainage control
- Raw material control / approved suppliers
- Potable water and ice
- Staff trained in hygiene
- Ability to trace and recall products

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The Seven Principles of HACCP

1. Conduct a hazard analysis
2. Determine the Critical Control Points
3. Establish Critical Limits
4. Monitoring control of the CCP
5. Corrective action taken when CCP is not under control
6. Verification to confirm HACCP is effective
7. Effective documentation

The Seven Principles of HACCP

1. Conduct a hazard analysis.

- A food hazard is anything that could harm the consumer (Categories microbiological, chemical, physical. allergenic)
- Hazards can occur at any stage in the food business
- Identify the likelihood of the hazard occurring and how severe the hazard could be for the consumer
- Involve staff and analyse the process




The Seven Principles of HACCP

2. Identifying Critical Control Points

- Control Measure "Any action and activity that can be used to prevent or eliminate a food safety hazard or reduce it to an acceptable level"
- Control Points are the steps in the process where the hazards must be controlled to reduce (or eliminate) hazards to a safe level
- The final opportunity to do this is the Critical Control Point (CCP)
- The 'Cook' step may be the only CCP

The Seven Principles of HACCP

3. Establishing critical limits

- These must be precise and measurable

- If critical limits are not met, corrective action must be taken

The Seven Principles of HACCP

4. Monitoring

- Checks at each Critical Control Point
- Checks that critical limits are not exceeded
- This <u>may</u> be just checking a cooking temperature

The Seven Principles of HACCP

5. Corrective actions

- If a critical limit is exceeded, action must be taken
- This could be mean longer cooking or could require that the food is discarded
- All corrective actions must be recorded

The Seven Principles of HACCP

6. Verification

- Checks that the HACCP system is working effectively and compliance with HACCP plan
- Audits, calibration of probes and reviews of corrective actions are examples of verification methods
- Ideally should be done by someone other than the person monitoring

The Seven Principles of HACCP

7. Documentation

- Record keeping should be sufficient to enable verification of food safety controls
- Documentation should be simple and accessible
- Should include monitoring records, prerequisite programmes and the HACCP plan

Monitoring

- Monitoring activities at CCPs
- Recording monitoring data
- Checking data against critical limits

Then:

- Report any failures at CCPs
- Implement corrective actions

HACCP key points

- A systematic, preventative approach to food safety
- Focuses on the hazards in order to prevent food poisoning
- Designed to control hazards at points critical to food safety
- Key actions can then be taken to reduce or eliminate the risk

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HACCP – the benefits

- ✓ Compliant with legislation
- ✓ Demonstrates ‘due diligence’ (due care)
- ✓ Proactive and cost effective
- ✓ Controls are easy to monitor
- ✓ Generates & supports a food safety culture
- ✓ Provides a food safety infrastructure

HACCP

***Activity* - Identify a Critical Control Point in a food process that you are familiar with and state the relevant Critical Limit.**

HACCP for small businesses?

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- Small team
- High staff turnover
- Little technical or scientific expertise
- Large and changing menu

‘Safer Food, Better Business’ (and equivalents)

- Designed for small businesses by Food Standards agency (FSA)
- Correct use will demonstrate compliance with the law
- Contains all documentation needed
- Downloadable from FSA website
- Versions for caterers, retailers and other sectors

****

Safer Food
Better Business
For Caterers

****

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Monitoring by Supervisors

What must supervisors monitor?

Delivery & storage:

- Only purchase from accredited suppliers
- Accept deliveries only if they are transported in a clean and suitably equipped vehicles
- Inspect deliveries on arrival (label / temperature / date / fit for human consumption / intact packaging)
- Ensure deliveries are unpacked away from food prepared for consumption
- Store deliveries in the correct place immediately

What must supervisors monitor?

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Working methods:

- Cleaning materials are kept separate from food
- Cleaning & disinfection is consistent
- Waste food is removed regularly
- Effective procedures for cooling hot food before refrigeration
- Temperature control is systematic & embedded

What must supervisors monitor?

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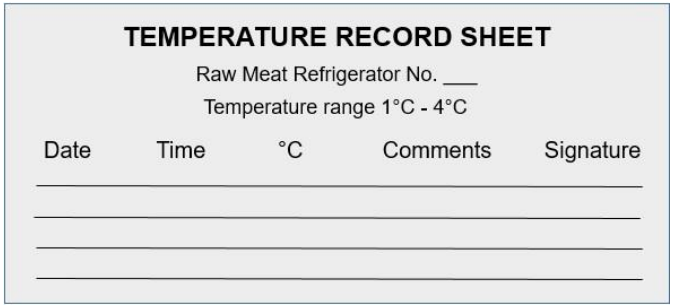
Food handler and visitor activity:

- Monitor the work of staff
- Control the access of visitors to high-risk areas
- Remove equipment to be repaired away from food areas
- Ensure there is a barrier around areas where visitor access should be limited e.g. during maintenance work
- Train staff thoroughly



TEMPERATURE RECORD SHEET

Raw Meat Refrigerator No. ___

Temperature range 1°C - 4°C

Date	Time	°C	Comments	Signature

Monitoring as a supervisory tool

Monitor:

- ✓ **Deliveries**
- ✓ **Food stock**
- ✓ **Staff practice (including hand washing)**
- ✓ **Cleaning**
- ✓ **Times and temperatures**
- ✓ **Record keeping**
- ✓ **General GHP**

Monitoring

***Activity* - state 6 actions that a supervisor should monitor in a busy kitchen.**

Supervisors need to understand and be aware of:

- The variety of sources of contamination
- The implications of differing types of hazards
- How to control and manage risk
- What controls are needed to protect food from contamination

Checklist
1……..
2……..
3……..
4……..
5……..

Examples of when to evaluate food safety control measures:

- Temperature inconsistencies
- Customer complaints
- Enforcement action
- Any breach of CCPs
- Regular physical contaminants

Quality assurance

- A continuous process of assessment and improvement
- Proactive – not reactive

Summary Of Unit Two

- Food safety law
- Temperature control
- Personal hygiene
- Pest control
- Waste control
- Cleaning and disinfection
- Food storage control
- Premises
- Food safety management systems
- Monitoring and reporting
- Corrective actions

Unit Three:
Understand the role of the supervisor

1. Describe the responsibility and level of authority of all relevant staff with respect to food handling practices

2. State the requirements for induction and on-going training of staff

3. Explain the importance of effective communication of food safety procedures

4. State the importance of promoting a food safety culture

Role & responsibilities of a supervisor

- Communication of policies & procedures to food handlers, visitors, suppliers and contractors
- Ensures implementation of policies and procedures
- Monitoring of essential hygiene practices (cleaning, temperature control, hand washing, etc.,)
- Reports and feedback to management on food safety issues
- Act as a link between food handlers and managers

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Food handler training

Role of supervisor in staff training

Activity **– State two <u>methods</u> of assessing if a staff member can safely handle food**

:

Role of supervisor in staff training

Food handler competency

- **A competent person is someone who can satisfy the requirements of knowledge, skills and attitudes that are needed to carry out a specific activity**

i.e. knowing what to do and doing it

Role of supervisor in staff training

Assessing food handler competency:

- **Observation of how they work**

- **Asking questions on their knowledge and understanding:**
  - **how do they put theory into practice?**

:

Role of supervisor in staff training

Legal requirements:

- ***'Food handlers are supervised and instructed and/or trained in food hygiene matters commensurate with their work activity'***
  Regulation (EC) 852/2004

- **Plus, those responsible for for the development and maintenance of HACCP programmes must be trained in HACCP principles**

Role of supervisor in staff training

When is training needed?

- Induction
- On-going, according to role
- Refresher
- Corrective / remedial
- Introduction of new equipment
- New systems or procedures

Role of supervisor in staff training

Induction training

Activity **– List at least six topics that should be covered in induction training:**

Role of supervisor in staff training

Induction training

- Hand washing – how and when
- Protective clothing
- Rules on jewellery, false eyelashes and finger nails
- Covering cuts and sores
- Reporting of illness (& family illness)
- Reporting of hazards
- Follow instructions and workplace rules

Induction Checklist
1……..
2……..
3……..
4……..
5……..
6……..
7……..
8……..

Role of supervisor in staff training

For learning to be successful, it must be:

- Enjoyable
- Relevant
- Highly participative
- Understandable
- Accurate
- On-going

What are you trying to achieve:

- Improve the recipient's performance and/or attain a required level of knowledge or skill
- Change in behaviour

Role of supervisor in staff training

Set objectives when planning training:

‘learners will be able to….’

Those objectives need to be SMART:

- **Specific**
- **Measurable**
- **Achievable**
- **Realistic**
- **Timed**

When planning your training, keep the learning objectives central to the training

Role & responsibilities of a supervisor

Happy staff are productive staff:

- Be responsive to feedback
- Be fair and consistent
- Show support
- Encourage staff to develop and to be multi skilled
- Keep staff updated

Effective communication

Communicating food safety controls

- A productive three-way process
- Staff to supervisor / supervisor to manager
- Seek feedback from staff – and act on it
- Use ‘active listening’
- Use communication methods that suit staff
  - verbal
  - noticeboard / newsletter
  - team meetings
  - individual 1-2-1 meeting

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Communicating food safety controls

- Lead by example
- Provide staff with results of audits, etc.,
- Give constructive feedback to staff
- Encourage a ‘reporting’ culture
- Provide necessary resources
- Clear policies & procedures
- Monitor activity to check for embedded practice

Food safety culture

Food safety culture

What is it?

- Food safety focuses on controlling hazards
- But this is mainly predicated on food handler behaviour
- Food handler practice is primarily influenced by the food safety *culture* of the food business
- The values, ethos and attitudes of the food business
- Relates to how people actually behave, rather than what the procedures specify

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Features of a good food safety culture

- Effective leadership – lead from the top
- Lack of complacency
- Willingness to learn and progress
- Ethical values and attitudes are displayed
- Staff fully involved in decision making
- Proactive attitudes are shown
- Remove conflicts between actual and desired working practice
- Proven efficient systems

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Summary Of Unit Three

- Role of the supervisor
- Staff training
- Effective communication
- Food safety culture

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Level 3 Award in Supervising Food Safety and Hygiene

Good Luck in your exam !