**Section 1 Part 2 - Food Safety**

**A: Introduction to Food Safety**

* At all stages in food preparation and service from delivery to service/sale, there will be general food safety controls in the workplace. This is to prevent the risk of contamination and cross-contamination, and the growth of bacteria.

1. **Food Delivery**

Making sure that all delivered foods are safe and of the right quality is the first step in ensuring that customers are satisfied and have confidence in the food that they buy.

When a food delivery arrives it is important to check:

•The date codes.

•For signs of damage or infestation.

•The temperature of chilled or frozen food.

•The condition (hygiene) of the vehicle and the driver.

•The quantity.

•The product description.

**If the food is sub-standard in quality, hygiene or temperature control, the delivery should not be accepted.**

REMEMBER, when a delivery of temperature controlled food is received, it must be moved to the appropriate cold storage as soon as possible after being checked.

Once goods have been accepted, they should be stored by placing the new stock behind or under the older stock – First in First Out (stock rotation). Compare the date coding of the new and older stock.

Don’t use out of date food, or food which is showing signs of spoilage – throw it out.

**2. Maintaining Temperature Control**

The term ‘temperature control’ of food means that products must be stored at temperatures that are above or below room temperature. This prevents the growth of harmful bacteria (pathogens) and will delay the action of spoilage bacteria and the growth of moulds.

It is essential to ensure that the time high-risk foods spend at room temperature is kept to a minimum. This will prevent the risk of bacterial growth.

This means keeping food at either above 63°C or below 5°C. A fridge will keep foods between 0-5°C and a freezer will keep foods up to -18°C.

**Fridges and Freezers**

There are a few simple rules for stocking fridge and freezer units that help to achieve the aims of ‘temperature control’.

* Cold air will escape quickly from freezers and chillers so it is important that doors to the units are kept closed whenever possible.
* Plastic strip curtains can be used to prevent warm air rushing into cold stores when the doors are open, these should never be tied back.
* Temperature controlled facilities should always be kept clean.
* Regular checks should be made to monitor and record the operating temperatures of any fridge and freezer units.
* Dials or LCD normally display the temperature at which cold storage units operate. These are sited on the outside so that checks can be made easily. Regular checks using a hand held thermometer should be made to ensure that readings are accurate.
* Any faults found with chillers or freezers should be reported.

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**Exercise**

What is the correct temperature for storing frozen food?

* 8°C
* 0°C
* -18°C

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**3. Food Preparation**

* Food preparation usually happens at room temperature (ambient temperature); in other words a suitable temperature for microbiological growth.
* Keep preparation time to a minimum to prevent foods from being left for too long at ambient temperature where bacteria could grow.
* Keep the amount of food being prepared at any one time to as little as possible and keep them covered.
* To prevent the possibility of cross-contamination, keep raw and ready to eat foods separate and prepare them separately, ideally with separate equipment and areas. If this is not possible, equipment must be cleaned and disinfected prior to being used for ready to eat foods.
* Cooking and Reheating Food
* To destroy harmful bacteria, it is essential to cook foods thoroughly until piping hot.
* Food should be cooked to a core temperature of 75°C. Good practice states that if foods are to be reheated, this should only happen once and they should be reheated to at least 75°C (In Scotland it is a legal requirement to heat to 82°C).

4. **Pest Control**

The presence of pests in food businesses must be avoided. Pests carry disease and contaminate and spoil food. Food pests include:

•Rats and mice

•Cockroaches

•Flies

•Birds

If the structure of a building is in poor repair or damaged, then pests can gain entry. If housekeeping standards are low, they will find the food and shelter that they seek.

**Signs of Pests**

Look out for:

•Droppings.

•Fur/feathers.

•Nibbled food packets.

•Eggs/larvae.

•Holes.

•Nests.

•Damage to packaging.

•Sightings.

What to Do if You Spot a Pest?

* It is a legal requirement that food premises are pest free.
* If you spot pests on the premises, or in a nearby vicinity, you must report any signs to the appropriate person immediately.

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**Exercise**

Food handlers should prepare raw and ready to eat foods in the same area:

Using colour coded equipment can reduce the possibility of cross- contamination

True or False?

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**Module Re-cap**

•Make sure that all delivered foods are safe and of the right quality. If the food is sub-standard in quality, hygiene or temperature control, the delivery should not be accepted.

•Once goods have been accepted, they should be stored by placing the new stock behind or under the older stock – First in First Out.

•Temperature control means that products must be stored at temperatures that are above or below room temperature to prevent harmful bacteria growing. This means keeping food at either above 63°C or below 5°C. A fridge will keep foods between 0-5°C and a freezer will keep foods up to -18°C.

•Keep preparation time to a minimum to prevent foods from being left for too long at ambient room temperature where bacteria could grow.

•To destroy harmful bacteria, it is essential to cook foods thoroughly until piping hot. Food should be cooked to a core temperature of 75°C.

•The presence of pests in food businesses must be avoided. If you spot pests on the premises, or in a nearby vicinity, you must report any signs to the appropriate person immediately.

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**B: Cleaning and Disinfection**

**Cleaning and Disinfection**

Cleaning and disinfection is a two stage process.

* The first stage is cleaning to remove dirt, grease and contamination.
* The second stage is disinfection which will reduce microbiological hazards from equipment and surfaces to acceptable levels.
* Cleaning and disinfection can involve a variety of different activities, such as wiping, scrubbing and washing. Cleaning can be carried out manually, or by the use of machines such as a dishwasher or glass washer.
* Clean and sanitary premises will not only give a good impression, but will reduce the risk of food contamination.
* It is important to remember though that premises can look clean, but may still be contaminated with harmful bacteria. Ineffective cleaning and disinfection may result in recontamination of surfaces and equipment with harmful bacteria, or contamination with chemical or physical hazards.

Why is Cleaning and Disinfection Important?

•Remove any debris that bacteria can grow in.

•Remove any debris which could encourage pests.

•Reduce the risk of contamination with physical objects such as dust.

•Reduce the risk of contamination with chemicals.

•Comply with the law.

What Cleaning Agents are there?

**Detergents & Degreasers** - These are chemicals which help to dissolve grease and remove dirt, but they do not remove bacteria.

**Disinfectants** - To prevent harmful bacteria from causing illness, certain equipment and surfaces in a food preparation area must also be disinfected. What is Disinfection? Once a surface or piece of equipment has been cleaned, it may need disinfecting. Disinfection reduces the number of bacteria to a safe level.

Several things can act as a disinfectant:

•Very hot water above 82°C.

•Steam.

•Commercial chemical disinfectants.

It is important to remember that all these methods of disinfection, will need enough time to work - especially if you are using commercial chemical disinfectants. You must follow the manufacturer’s instructions with regard to contact time.

**What are Sanitizers?** Sanitizers are chemicals which contain a combination of cleaning and disinfecting properties. They must be given enough contact time to work properly. The FSA advises that sanitizers are used first to clean and second to disinfect.

**Does Everything Need Disinfecting?** Not everything will need disinfecting, although everything must be regularly and thoroughly cleaned.

The following will need cleaning and disinfecting regularly:

•Food contact surfaces.

•Hand contact surfaces.

•Food equipment.

•Cleaning equipment.

**When to Clean and Disinfect?**

There are two types of cleaning which you may become involved in:

1.Clean as you go.

2.Scheduled cleaning.

What is Clean As You Go? This type of cleaning is everybody’s responsibility and means that you must clean up your area during and immediately after every task, and it should be happening frequently throughout the day.

This is important as it reduces the possibility of contamination happening.

What is Scheduled Cleaning? This type of cleaning happens at a specific time and has been written up into a timetable of cleaning duties. This is generally referred to as a cleaning schedule and will detail:

•What is to be cleaned?

•How often it is to be cleaned.

•How it is to be cleaned.

•Who is responsible for doing the cleaning and who is responsible for checking that the cleaning has been done.

It is the responsibility of the employer to write the cleaning schedule and train you how to complete the tasks. It is your responsibility to carry out any tasks that have been assigned to you.

**The Six Stages of Cleaning and Disinfection**

There are six main stages in most wet cleaning tasks and you will be trained in the workplace how to clean everything.

1.Pre-clean – this removes loose dirt and debris by scraping.

2.Main clean – this loosens dirt and grease with hot water and detergent.

3.Rinse – this removes loose dirt, grease and detergent with hot clean water.

4.Disinfection – this reduces bacteria to a safe level.

5.Final rinse – this removes disinfectant with clean hot water.

6.Drying – this should ideally be done naturally by air drying to prevent the possibility of recontamination.

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**Exercise**

Which of the following statements is correct?

* Cleaning must be planned
* Clean only when necessary
* Clean the bits the customer can see

What should be the first thing you do with a new or unfamiliar cleaning chemical?

* Shake the container
* Read the label
* Smell the contents

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**How to Prevent Contamination During Cleaning**

•To prevent contamination of food and protect yourself from harm when using cleaning chemicals, you must follow safety precautions.

•Before beginning any cleaning tasks, it is important to make sure all food has been removed and is stored safely.

•If you are cleaning any electrical equipment, you need to ensure that it has been switched off.

•As much as possible, you need to avoid spreading dust and debris around the food area, as it will cause contamination.

•Make sure you follow manufacturers’ instructions for all cleaning chemicals, especially with regard to dilutions and contact time, otherwise they will be ineffective.

•Some chemicals must be rinsed away to avoid the possibility of contamination, whilst others can be left on surfaces – ensure you know what the requirements are for the chemicals you are handling.

•Chemicals must always be stored in properly labelled containers and away from food.

•To protect yourself, always wear the necessary protective clothing such as gloves or goggles

**Cleaning Cloths and Equipment**

* Any cloths and equipment used for cleaning can be a source of contamination if not cleaned properly. The best type of cleaning cloths to use are disposable cloths.
* If the cloths in the workplace are not disposable, ensure they are clean. Colour coding can be used to separate cloths for use in different areas and prevent the risk of contamination.
* All equipment needs to be cleaned and disinfected after use and stored correctly away from food.

**Dealing with Rubbish**

* During the day, rubbish will be produced which needs dealing with. Bins are needed in food preparation areas, but need to be positioned where they are not going to cause contamination. Bins will also be needed outside.
* Rubbish should be removed from the work area as often as needed to the outside bins. The outside bin areas need to be kept clean and tidy and the bins should be solid with close fitting lids to prevent pests from getting in.
* At the end of a shift, inside bins should always be emptied and cleaned. Hands must always be washed after handling rubbish and waste food.

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**Exercise**

Select True or False to the following statements:

Always remove all food before beginning to clean and disinfect. (True / False)

The best type of cloths to use are non-disposable. (True / False)

Colour coded cloths can help to prevent cross contamination (True / False)

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**Module Re-cap**

•Cleaning and disinfection is a two stage process. The first stage is cleaning to remove dirt, grease and contamination. The second stage is disinfection which will reduce microbiological hazards from equipment and surfaces to acceptable levels.

•Disinfection reduces the number of bacteria to a safe level. Not everything will need disinfecting, although everything must be regularly and thoroughly cleaned.

•Sanitizers are chemicals which contain a combination of cleaning and disinfecting properties and should be used alongside disinfectants.

•Clean as you go is everybody’s responsibility and means that you must clean up your area during and immediately after every task.

•Scheduled cleaning happens at a specific time and has been written up into a timetable of cleaning duties.

•The 6 main stages in cleaning are: pre-clean, main clean, rinse, disinfect, final rinse, drying.

•Any cloths and equipment used for cleaning can be a source of contamination if not cleaned properly. Use disposable cloths or use colour coding to prevent contamination. All equipment needs to be cleaned and disinfected after use and stored correctly away from food.

•Bins are needed in food preparation areas, but need to be positioned where they are not going to cause contamination. At the end of a shift, inside bins should always be emptied and cleaned.

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**C: Personal Hygiene**

**Introduction**

People who handle food can be a common source of food safety hazards. Therefore, high standards of personal hygiene must be maintained by everyone who works with food. Even healthy people carry bacteria which can cause illness if transmitted to others either directly or through food. These bacteria are mainly carried in the nose, throat, bowels, bladder and on the skin. This is why it is essential that suitable precautions are taken to prevent them from being passed into the food.

**The Importance of Handwashing**

Healthy food handlers can be carrying harmful bacteria on their bodies. If care is not taken, these bacteria can be transferred from hands to foods and will cause illness.

The hands in some cases will also be in direct contact with foods. For example, handling raw meat with hands which are not washed properly would transfer the harmful bacteria from the raw meat onto other foods.

If possible, foods should not be handled, or handled as little as possible with bare hands to prevent the risk of contamination.

Tongs, bags or disposable gloves could be used to pick up food. However these can all also cause contamination if not clean.

If foods are to be handled with bare hands, correct hand washing is essential.

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**Exercise**

Food handlers are a source of food poisoning bacteria (True / False)

Food handlers must maintain high standards of personal hygiene at all times (True / False)

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**How Should Hands be Washed?**

•Rinse your hands under running water and then dry them thoroughly using disposable towels, a clean roller towel or a hot air dryer.

•Never use a dirty towel or your apron to dry your hands as this will re-contaminate them.

•Ideally taps should be non-hand operable so you don’t have to turn them off with clean hands. If they are not, it is essential to prevent re- contamination of hands from dirty taps by, for example, using paper towel to turn the tap off.

•Apply a hand disinfectant if it is your company policy.

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**When Should Hands be Washed?**

There are many times during the working day that hands need washing to prevent them from becoming a contamination risk.

Hands should always be washed:

**Before**

•Starting work.

•Touching raw food or high risk food.

**During**

•Food preparation, as often as necessary.

•The switching between handling raw and cooked foods.

**After**

•Handling raw food.

•Visiting the toilet.

•Handling raw eggshells.

•Coughing and sneezing into your hands or handkerchief.

•Carrying out any cleaning duties or handling cleaning chemicals.

•Handling waste food/rubbish.

•Handling external packaging, flowers or money.

•Combing or touching the hair, face, nose, mouth or ears.

•Dealing with an ill customer.

•Applying or changing a plaster/dressing.

•Eating, smoking or drinking (in the designated non-food area).

**Further Personal Hygiene**

**Can I wear nail polish?** Nail polish should not be worn as it can chip and flake into food, it can also hide dirt behind finger nails which could be a source of contamination. Nails should be short and clean to prevent contamination.

**What jewellery can I wear?** Bacteria can live on and under watch straps and rings. Jewellery can drop into food, therefore it should not be worn whilst handling food. Some companies may allow you to wear a plain wedding ring.

**Can cuts, spots and grazes cause problems?** All of these provide an ideal place for bacteria to be found growing and multiplying and should be covered with a brightly-coloured waterproof dressing – usually blue, so you can see it if it falls into food. Otherwise contact with food could cause contamination and food poisoning. Dressings should always be clean.

**What Protective Clothing Will I Need to Wear?** What you are asked to wear will depend on the type of food business and the nature of the foods being handled. The purpose of protective clothing is to ‘protect the food from you’. This means it should act as a barrier to keep the food clean and prevent it from being contaminated by your clothing and skin. It is not designed to keep you clean!

Typically protective clothing could include:

•Overalls, aprons, jackets, trousers.

•Neck scarves, hats, hairnets, beard nets.

•Disposable gloves.

•For low risk jobs, clean uniform may be sufficient e.g. working behind a bar.

Do I Need to Wear a Hat?

•On average, we lose 50 – 100 hairs a day from the head. If you spend a long day working with food, there is a good chance some of those hairs could end up in the food. This is why wearing a hat is recommended for certain tasks.

•Hats will need to be worn for some food handling jobs, particularly where open high-risk foods are being handled. Wearing a hat also discourages you from touching your head and hair and picking up bacteria on your hands.

•If you need to wear a hat, the purpose of it is to prevent hair from falling into food. The hat should cover as much hair as possible; you may also have to wear a hairnet underneath.

•Whether you are expected to wear a hat or not, if your hair is long, it should be tied up. Hair should never be brushed or combed in the food preparation area as it could cause contamination.

•You should put your hat or head covering on before you put on your protective clothing. This is to prevent contaminating the outside of the protective clothing with hairs and bacteria.

•In some businesses, if you have a beard or moustache, you may also be required to have these covered with a beard net.

When Should Protective Clothing be Worn?

* Bearing in mind protective clothing is worn to protect the food from risk of contamination, it should not be worn outside the food premises i.e. not to travel to and from work (an exception to this may be low-risk jobs where uniform is the protective clothing).
* There should be adequate space provided in the food premises to change into protective clothing and store outdoor clothing away from the food preparation areas, to prevent the risk of them contaminating food.

What Should Protective Clothing be Like?

* Whatever type of protective clothing you are asked to wear, it must be suitable for use. To prevent the possibility of the clothing causing contamination, it must be clean and in good condition, as fraying cottons can end up in food.
* Ideally, protective clothing should be light coloured so that you can see when it needs changing and there should be enough clean clothing for everybody to use.
* External buttons and pockets are not a good idea as buttons can drop off into foods and items can fall from pockets.
* All protective clothing should be easy to clean. Bearing in mind the destruction of bacteria, the clothing should be able to be washed in a hot wash. If hats are worn, they should either be disposable or easy to clean too.

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**Exercise**

What must be kept short if you are a food handler?

* Protective clothing
* Your training
* Your nails

What colour is recommended for a waterproof dressing?

* Pink, red or orange
* An easily-detectable colour
* A dark colour
* See-through

Before entering a food preparation area you must always put on:

* Rubber gloves
* A warm jumper
* Clean protective clothing

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**What Unhygienic Habits Can Food Handlers Have?**

Food handlers with unhygienic habits can easily contaminate foods with bacteria, chemicals, physical objects and allergens. When working with food you must not:

•Handle food without washing your hands.

•Pick your nose, or wipe your nose on a sleeve.

•Cough or sneeze over food.

•Spit.

•Blow or breathe onto cutlery and glassware to polish them.

•Test food with fingers – use a clean spoon every time.

•Lick your fingers to make it easier to separate bags and papers.

**If I am Ill, What Do I Need to Do?**

If you are ill, you are likely to be a contamination risk. Therefore, you have a legal responsibility to report certain illnesses to the business owner, manager or supervisor, before turning up for work. You must report if you have had or are currently suffering from food poisoning or any illness with similar symptoms such as:

•Diarrhoea.

•Vomiting.

•Nausea.

•Ear, eye and nose discharges.

•Septic cuts or boils, open wounds or broken skin or any other skin condition or infection.

You should also report if a member of your close household is ill, or if you have had similar symptoms whilst abroad on holiday.

It is up to the manager to decide if you are fit to work or should be excluded until you are better and don’t pose a risk of contamination.

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**Module Re-cap**

•If possible, foods should not be handled, or handled as little as possible with bare hands to prevent the risk of contamination. Tongs, bags or disposable gloves could be used to pick up food. However these can all also cause contamination if not clean.

•The correct handwashing procedure must be followed at all times, including before, during and after handling food.

•Nail polish should not be worn as it can chip and flake into food. Bacteria can live on and under watch straps and rings and any cuts, spots and grazes should be covered with a brightly-coloured waterproof dressing.

•The purpose of protective clothing is to ‘protect the food from you’. This means it should act as a barrier to keep the food clean and prevent it from being contaminated by your clothing and skin. It should not be worn outside the food premises.

•To prevent the possibility of the clothing causing contamination, it must be clean and in good condition. Ideally, protective clothing should be light coloured and external buttons and pockets should be avoided.

•If you are ill, you are likely to be a contamination risk. Therefore, you have a legal responsibility to report certain, contagious illnesses to the business owner, manager or supervisor, before turning up for work.

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