



جهاز أبوظبي للرقابة الغذائية  
ABU DHABI FOOD CONTROL AUTHORITY

**Code of Practice No. (13)/2011**

# **Food Hygiene for Food Service**

**Endorsed by Board of Directors**

13 May 2011

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### (i) Introduction

This Code of Practice has been developed to provide best practice guidance on how Food Service businesses can produce safe food and comply with ADFCA legislation. In particular it takes account of the requirements of Regulation No (6) of 2010 - Food Hygiene throughout the Food Chain and international best practice.

The structure of this Code of Practice follows the five pillars of food safety: cooking, chilling, cleaning, avoiding contamination and management. In each section the relevant Articles of Regulation No. 6 are quoted for reference, the important food safety reasons explained and guidance on best practice identified.

Following the best practice in this Code will improve food safety standards, minimise the risk of outbreaks of food borne disease and protect consumers. It will also reduce customer complaints and the fines received from ADFCA Food Inspectors.

Whilst this Code sets out recommended means by which caterers may comply with Regulations it is advisory in nature. It is therefore possible for a business to demonstrate to ADFCA that they have achieved the objectives of the Regulations in other ways.

### (ii) Scope

This Code of Practice shall apply to establishments that are collectively referred to as 'Food Service businesses'. These are described as 'food and beverage serving activities providing complete meals or drink fit for immediate consumption, whether in traditional restaurants, self service or take away restaurants, whether as permanent or temporary stands with or without seating. It excludes the production of meals not fit for human consumption, of meals not planned to be consumed immediately and of prepared food not considered to be a meal.

**Food Service businesses therefore include:**

- a. Hotels
- b. Restaurants
- c. Take-aways
- d. Coffee shops
- e. Cafeterias/canteens
- f. Contract caterers
- g. Outdoor Food Service events
- h. Hospitals and other nursing/care facilities
- i. Central production kitchens
- j. Schools and other educational establishments
- k. Prisons

### (iii) Definitions

**In this code of practice the terms and expressions of the food Law No. 2 for the year 2008 and the relevant regulations shall apply, in addition to the following, unless the text indicates otherwise:**

<b>Food Service</b>	Add a footnote - * The term 'catering' is used by some Governments to describe the same general activity.
<b>Food Hygiene</b>	All conditions and measures necessary to control hazards and ensure the safety and suitability of food at all stages of the food chain.

<b>Food Handling</b>	Includes convey, cook, decorate, deliver, display, distribute, manufacture, pack, prepare, preserve, process, produce, receive, serve, store, transport, or treat food.
<b>Cross Contamination</b>	The transfer of harmful substances or disease-causing microorganisms to food by hands, food-contact surfaces, cloths, utensils that touch raw food, are not cleaned, and then touch ready-to-eat foods. Cross contamination can also occur when raw food touches or drips onto cooked or ready-to-eat foods.
<b>Ready-to-eat food</b>	Foods that will be consumed without any further heat treatment and pose a significant public health risk if not kept in chilled storage.
<b>Food Safety Management System</b>	A risk management system that controls both specific and general operational hazards using the seven principles of HACCP (Hazard Analysis and Critical Control Point) and Good Hygiene Practices (GHP) as described by the Codex Alimentarius Commission.
<b>HACCP</b>	A systematic approach to the identification, evaluation and control of food safety hazards based on seven principles described by the Codex Alimentarius Commission.

#### (iv) Related documents

The following ADFCA documents are relevant to this Code of Practice and are an additional source of information to accompany this Code:

- ADFCA Regulation No.(1) for the year 2008, Description of Violations Related to Food & its Handling.
- ADFCA Food Law No 2 for the year 2008, Food Law.
- ADFCA Regulation No.(3) for the year 2008, Recall and Traceability of Feed & Food.
- ADFCA Regulation No.(6) for the year 2010, Food Hygiene throughout the Food Chain.
- ADFCA Code of Practice No.(1) for the year 2010, Food and Feed Product Traceability and Recall.
- ADFCA Code of Practice No.(18) for the year 2012, A Guide to the Preparation of a HACCP-Based Food Safety Management System for the Food Service Industry Hotels
- ADFCA Code of Practice No. (17) A Guide to the Preparation of a HACCP-based Food Safety Management System for Food Service Contractors.
- ADFCA Code of Practice No. (18) A Guide to the Preparation of a HACCP-based Food Safety Management System for Hotels.
- ADFCA Code of Practice No. (19) A Guide to the Preparation of a HACCP-based Food Safety Management System for International Restaurant Chains.
- ADFCA Code of Practice No. (20) A Guide to the Preparation of a HACCP-based Food Safety Management System for Local Restaurant Chains.
- ADFCA Code of Practice No. (21) A Guide to the Preparation of a HACCP-based Food Safety Management System for Schools and Hospitals.
- ADFCA Code of Practice No. (22) A Guide to the Preparation of a HACCP-based Food Safety Management System for Traditional Kitchens.
- ADFCA Code of Practice No. (23) A Guide to the Preparation of a HACCP-based Food Safety Management System for Labour Camps.
- ADFCA Code of Practice No. (24) A Guide to the Preparation of a HACCP-based Food Safety Management System for Small Businesses.



## 1 COOKING

[Article 31]

The time and temperature of cooking should be sufficient to ensure that heat penetration at the core of a food will result in the destruction of any pathogenic microorganisms. A core temperature of the food shall reach a minimum temperature of (70)°C for two minutes or an equivalent amount of heat.

### 1.1 Cook safely

**Thorough cooking kills harmful bacteria  
and makes food safe**

#### 1.1.2 How to prove the cooking methods used are safe

Cooking is the most effective method of making food safe. This is because heat can kill harmful bacteria. The food must be cooked at a safe temperature for a specified time to ensure that sufficient heat is produced to kill harmful bacteria (see Table 1 below). It is essential to check every time an item is cooked that it is safe. How can this be achieved in practice?

It is impractical in most Food Service businesses to use temperature probes and a stop watch (to check time and temperature) every time an item is cooked. For instance, a restaurant may cook several hundred items during a busy lunch period. However, probes are essential to 'prove' that the methods used in the business are safe.

A practical method of checking that the cooking methods used in the business are safe involves three steps as described below.

**Steps to ensure that cooking methods are safe:**

- Step 1** Prove once
- Step 2** Monitor every time
- Step 3** Check routinely

#### Step 1: Prove the method

A simple time-temperature chart can be produced to show that a safe temperature is reached for an adequate time during a cooking process. If the food reaches over 86°C then it is safe. If a lower temperature is used then the time must be also measured. Table 1 shows the times and temperatures required to ensure food is safely cooked.

**Table 1 Cooking times at different temperatures.**

Cooking Temperature	Cooking Time		
65°C	10 minutes		
70°C	2 minutes		
75°C	30 seconds		
86°C	Instant		

Figure 1: Equipment required for checking if the food is safe.



**Step 2: Check every item is cooked before serving**

Every time food items are cooked they should be checked to ensure safety. After the food has been cooked the food handler should use sensory checks such as color, smell, texture, steaming and bubbling to **monitor** that the product is safe. The full details of sensory checks used should be documented as part of the management system (see section 5.9)

Examples of sensory checks that can be used to monitor safe cooking can be seen in Table 1 with examples illustrated in Figures 3, 4, 5 & 6 below

**Table 2 How to monitor food is safely cooked.**

FOOD	MENU-ITEM	FOOD SAFTY MES-SAGE	SENSORY CHECK (example)
Red meats (whole cuts)	Fillet steak Rack of lamb	Contamination only on the surfaces.	Cooked brown on all surfaces.
Processed red meats	Burgers Sausages	Contamination throughout the product	Piping hot and brown all the way through. No red or pink in the centre.
Poultry Check	Chicken Turkey	Contamination throughout the product.	Flesh changes colour, no blood or pink.
Shell fish	Prawns	Contamination throughout the flesh.	Texture changes, shell pink and flesh opaque white.
Liquids and sauces	Soup	Contamination throughout the product.	Liquid bubbling and steaming throughout.
Complex /mixed menu-items	Lasagne	Contamination throughout the product.	Surface colour change, bubbling, and steaming hot throughout.

**Step 3 Verify the cooking process routinely**

Figure 1 Practical checks to monitor that liquid soups & sauces are cooked



Figure 2 Practical checks to monitor the safe cooking of rice dish.



Figure 3 Practical checks to monitor if chicken is safely cooked.

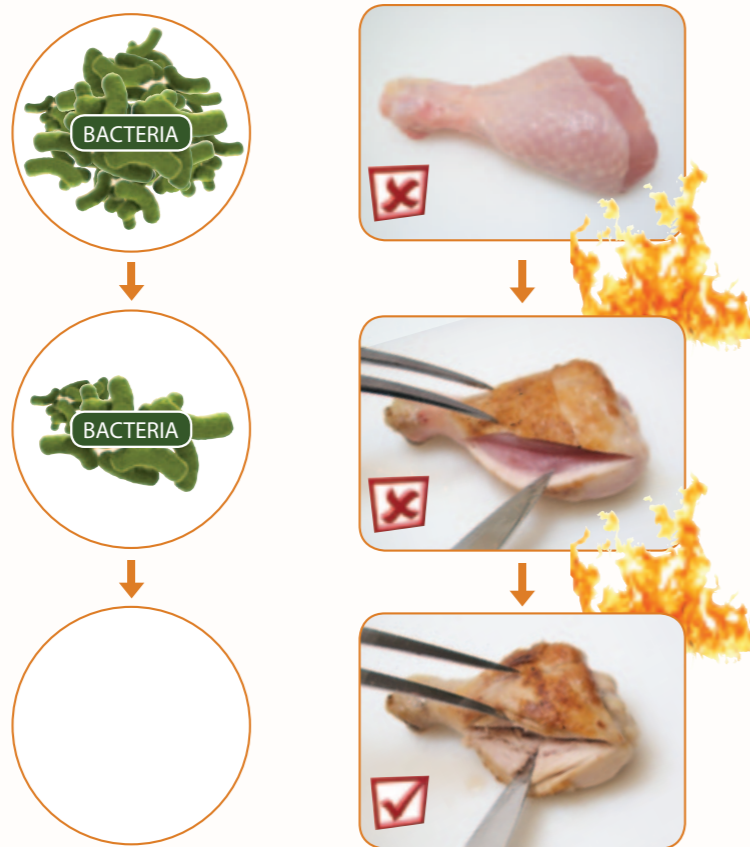
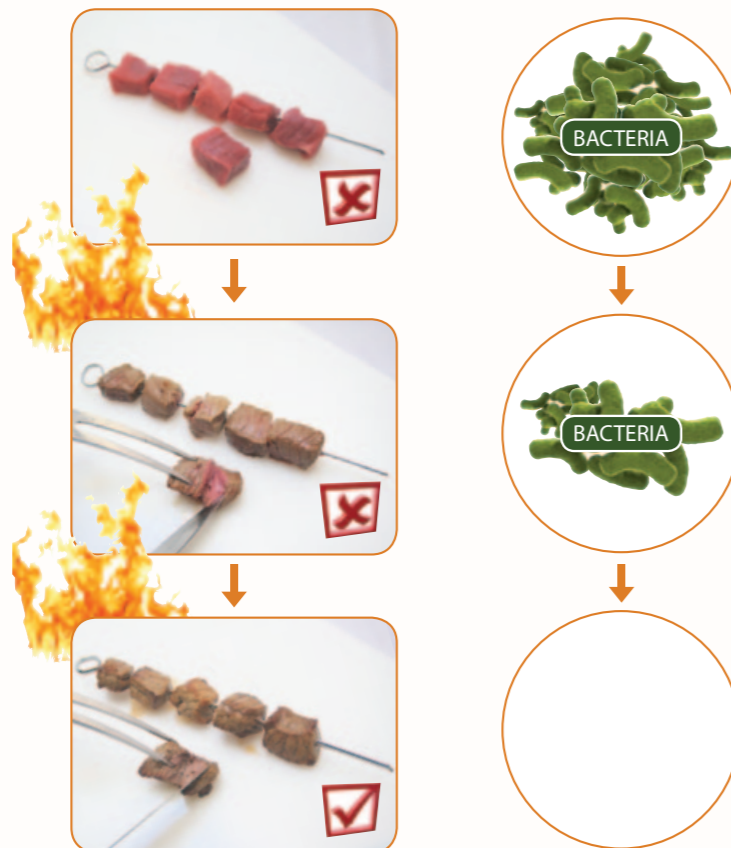


Figure 4 Practical checks to monitor safe cooking of kebabs.



Once a specific process has been proved to work (step 1) and the food is also monitored every time using sensory checks (step 2), then the business should be confident that cooked product is safe. However, it is sometimes useful to also double check or 'verify' on a regular basis. The frequency of these routine checks will depend on the size and nature of the business. Further guidance will be issued by ADFCA concerning any specific verification requirements (see Section 5.9).

### 1.1.3 Additional safety points

- A. Where appropriate always use manufacturers' instructions for cooking as found on the label. This is because the manufacture has tried and tested safe cooking methods specifically for their products.
- B. Preheat equipment such as ovens and grills before cooking to ensure even cooking.
- C. The cooking of foods should take place as closely as possible to the serving time in order to reduce the risk of re-contamination.
- D. For cooked foods that are not intended for consumption on the day they are prepared, the cooking process should be followed by rapid cooling and then chilled storage.
- E. Care should be taken when cooking shellfish. They can contain toxins that are not destroyed by heat. Always buy from a reputable supplier.
- F. Always cook eggs and foods containing eggs thoroughly until they are piping hot as they may contain harmful bacteria.
- G. Use pasteurized egg (heat treated) in any egg based items that may only be lightly cooked e.g. mayonnaise or mousse.
- H. After rice is cooked, make sure it is kept hot until served or chilled down and stored in a refrigerator. This is because harmful bacteria will grow in warm cooked rice that produce toxins that poison the body. Re-heating will not destroy these toxins.
- I. Take care to soak pulses ( e.g. red kidney beans) properly before cooking to remove natural toxins that can cause food borne disease.

## 1.2 Re-heating

the food was last cooked.

### 1.2.1 Important points to consider

- L. Re-heat to a minimum of 70°C for 2 minutes or an equivalent time-temperature combination (see Table 1). Document methods used, prove they are safe and use visual checks every time the items are re-heated (see Section 1.1).
- M. Reheat liquid foods until bubbling throughout when stirred (see Figure 3).
- N. Reheat solid foods until 'piping hot' (steaming) in the centre (see Figure 4 – 6).
- O. Specialist re-heating equipment should be used if possible to ensure that food is hot enough to kill harmful bacteria but not over-cooked (e.g. regeneration ovens, microwaves).
- P. Pre-heat equipment such as ovens to ensure even re-heating.
- Q. If using a microwave for reheating purchased food the manufacturer's instructions should be followed to ensure safe temperatures are reached. If using a microwave to re-heat products prepared in the kitchen ensure that liquids are stirred and other foods are checked in more than one place. This is because microwaves do not cook evenly - food can be hot at the edges but cold in the middle.

- R. Serve reheated food immediately, unless it is going straight into hot holding. If food is not served immediately, the temperature will drop and harmful bacteria could grow.

### 1.3 Hot-holding

[Article (37)

Any ready to eat potentially hazardous food, if it has been at temperatures between (5)°C and (63)°C

(a) For a total of less than two hours, shall be refrigerated or reheated to be used immediately.

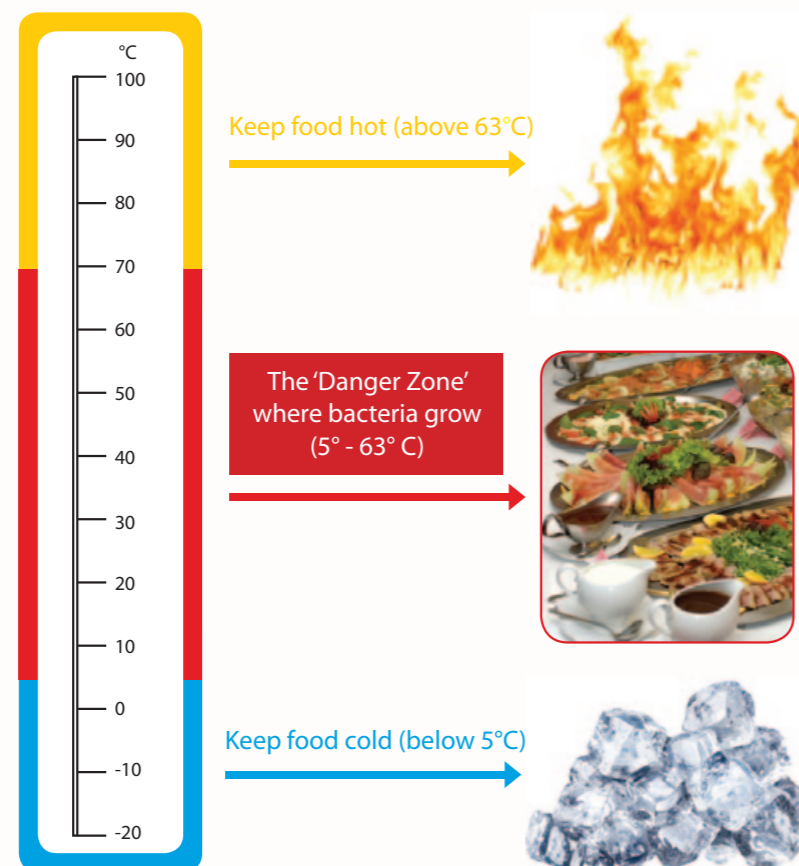
(b) For a total of or longer than two hours shall be disposed of immediately.

**It is very important to keep food hot until serving to prevent harmful bacteria from growing.**

#### 1.3.1 Important safety points to consider

- If food is required to be kept hot prior to service (hot-holding) then specialist equipment should be used to ensure it is kept above 63°C. Below this temperature harmful bacteria may grow (see Figure 7).
- Pre-heat hot holding equipment before food is placed in it. This will ensure that a safe temperature is maintained and the food keeps hot.
- If the temperature of hot food on display cannot be kept above 63°C (for example, if specialist equipment is not available) it should be displayed for a minimum time and for a maximum of 2 hours.
- Display small quantities at a time and do not mix new food with food already on display. Remember First-In-First-Out (see Section 5.7.2).
- Bain-maries shall not be used to re-heat sauces or other foods. Foods placed in a bain-marie must already be at a temperature above 63°C.

Figure 5: The Danger Zone



### 1.4 Management responsibilities

To ensure that food is always safely cooked food handlers should follow the methods described in this Chapter. However, it is also necessary for the owner/manager to provide appropriate equipment and to ensure adequate training & supervision. A summary of relevant responsibilities is listed below, with further details in the Management Chapter (see Section 5.1-5.9).

#### The food business operator should:

- Provide suitable equipment to enable safe cooking, hot-holding and re-heating (see Section 5.5).
- Ensure that any hot food delivered to other venues is kept at or above 63°C (see Section 5.6).
- Ensure a system of preventative maintenance is in place for all cooking, hot-holding and re-heating equipment (see Section 3.5 & 5.5).
- Ensure that temperature probes are calibrated and Safe Operating Procedures (SOPs) are developed for disinfection and correct use (see Section 5.5.3).
- Develop SOPs for cooking, hot-holding and re-heating and establish suitable record keeping requirements (see Section 5.9).
- Train and monitor food handlers to ensure that the SOPs are followed (see Section 5.2 & 5.9).





## 2 Chilling

[Article 37]

Any ready to eat potentially hazardous food, if it has been at temperatures between (5)°C and (63)°C ;

- (a) For a total of less than two hours, shall be refrigerated or reheated to be used immediately
- (b) For a total of or longer than two hours shall be disposed of immediately

[Article 38]

If the temperature of chilled foods is not maintained, the following action shall be taken:

- (a) If the temperature of the chilled food at any time is at or above (5)°C and below (8)°C , the food shall be immediately chilled to below (5)°C
- (b) If the temperature of the chilled food at any time is above (8)°C , the food shall be disposed of immediately unless substantial science based food safety evidence is submitted to the Authority

[Article 93]

- (a) The temperature of display cabinets and service counters shall be monitored and records maintained, in accordance with provisions applicable to temperature control stated in this regulation
- (b) Where ice is used, adequate quantities shall be used to maintain the correct temperature.

### 2.1 Chilled storage & display

**Most harmful bacteria stop growing or grow very slowly at cold temperatures.**

#### 2.1.1 Chilled storage requirements

- A. Chilling is the use of cold temperatures to extend the shelf life of food and help to keep it safe. Many foods need to be kept in chilled storage to prevent harmful bacteria from growing in the food, as can be seen in Figure 6. For example:
  - a. Foods with a use-by-date (or similar expiry date label)
  - b. Foods that have 'keep refrigerated' on the label.
  - c. Food that has been cooked but is not to be served immediately.
  - d. Ready-to-eat food such as salads and desserts.
  - e. Raw meat, poultry and eggs.
- B. All chilling equipment should maintain food at temperatures of below 5°C to keep it safe and out of the 'danger zone' (see Figure 7)
- C. It is important that food is never consumed after the end of its use-by date. This is because some harmful bacteria will grow slowly at below 5 C. For this reason chilled food is only safe for a limited time. Ensure that:
  - D. For dishes that are prepared in the kitchen it is necessary to use stickers, or similar methods, to label the food with an expiry date.
- E. The maximum storage time for foods prepared in the kitchen and stored in the chiller, is 3 days.

Figure 6: Typical foods that require chilled storage



#### 2.1.2 Safe use of chilling equipment

All equipment designed to store chilled food should be used and maintained according to the manufacturer's instructions. This will ensure that the correct temperatures, of below 5 C, are maintained at all times.

- A. Check the equipment is working correctly at the beginning of every day and at the end of service. Any problems should be recorded and action taken and investigated. Any action should also be recorded.
- B. Do not overload chiller units as this will block the circulation of cold air and cause temperatures in some parts of the chiller to increase.
- C. Do not put hot foods into chiller units as this will cause the temperature to rise, create condensation and increase the risk of cross contamination and the growth of harmful bacteria,
- D. Cover and date label all items.
- E. Doors should not be kept open for longer than necessary.

#### 2.1.3 Chilled display

Displayed food (for customers to see, or serve themselves) can become contaminated from people, equipment or the environment. It is important therefore to always take steps to avoid cross contamination (see Section 4.5.5).

However, for the display of chilled food additional precautions are essential. The food should be kept below 5°C or displayed for only short period of time.

It is important to follow the following practices to comply with ADFCA requirements.

- A. To display cold food it is best practice to use specialist chilled display units. At the end of service this food can be put back into chilled storage.
- B. If no specialist equipment is available, food can be displayed without temperature control for a maximum



time of 2 hours. However, this time should be reduced to a minimum, especially in hot conditions. At the end of service any remaining food should be disposed of.

- C. All chilled display equipment should be used according to manufacturer's instructions.
- D. Display only as much food as is likely to be needed.
- E. Display for a minimum time.
- F. Use photographs or single portions for customers to view as an alternative to displaying food.
- G. Ice can be used to maintain the temperature of cold display items. However, it should not come into direct contact with ready-to-eat food items.

#### 2.1.4 What to do if the chiller breaks down

It is essential that all chilled storage equipment is working at the correct temperatures. If the chiller (e.g. refrigerator) breaks down the following actions should be taken.

- A. Check the temperature of the food. If it is still at a safe temperature it should be moved to another chilled storage unit. If this is not possible it should be cooked and/or consumed immediately.
- B. The equipment should be repaired or replaced.

## 2.2 Chilling hot food

### Harmful bacteria can grow in food that is left to cool slowly

Hot food is often cooled after cooking so that it can be stored and used later. It is essential to do this as quickly as possible to prevent the growth of harmful bacteria.

- A. The food should be cooled to 5 C, covered and then placed in a refrigerator or alternative chilled storage area.
- B. If possible, large quantities of food should not be prepared in advance as this will be more difficult to cool safely.
- C. Menus should be planned carefully to reduce the amounts of food that need to be chilled and stored.

Figure 7: Cooling of cooked food



#### 2.2.1 Methods of chilling hot food

It is important to begin 'active cooling' as quickly as possible, and always within 30 minutes of cooking. Food must not be left to cool at room temperature.

The chilling methods used can vary, depending on the nature and size of the business, but all methods should be checked to ensure that the foods are not in the 'danger zone' for more than 2 hours (see Figure 7).

## Blast Chillers

The use of specialist equipment is the best method of chilling hot foods safely. Blast (rapid) chiller units are designed to reduce the temperature of cooked food to below 5°C within 90 minutes. It is important to follow manufacturer's instructions, especially with the depth of food in the containers and to avoid overloading.

### Examples of alternative chilling methods

There are many methods that are used in kitchens to speed up the cooling process. The following is a list of common methods. Any methods used must be 'proven' to be effective. Special care must also be taken to prevent re-contamination from people, equipment and the environment during the cooling process.

- A. Hot food can be covered and rapidly chilled by placing in a frozen storage unit for a short time (e.g. a few minutes).
- B. Cold water/ice can be used to cool foods. However, the food must be protected from contamination by the use of, for example, vacuum packs. Cooking pans holding hot liquids can be cooled in cold water but must be kept covered.
- C. Frequent stirring, with clean utensils, during cooling will reduce the temperature more quickly.
- D. Dividing foods into smaller portions will increase the speed of chilling. However, care must be taken to avoid re-contamination of the cooked food.

#### 2.2.2 How to prove chilling methods are safe

A variety of chilling methods can be used including any of those mentioned above. However, all methods used in a food business must be checked to ensure they cool the food down in a safe time.

A practical method of checking that the chilling methods used in the business are safe involves three steps as described below.

#### Steps to ensure that chilling methods are safe:

- |        |                              |
|--------|------------------------------|
| Step 1 | Prove once                   |
| Step 2 | Follow the method every time |
| Step 3 | Check routinely              |

Figure 9: Equipment required for checking if the cooling method is safe.



#### Step 1: Prove that the chilling method is safe

A simple time-temperature chart can be produced to show that the food reaches a safe temperature within a safe time. It should not be in the danger zone (5 – 63 C) for more than 2hrs.

As the food must be cooled all the way through it is important to check the temperature where the food will cool the slowest. This is usually the centre of the food.

#### Step 2: Ensure the method is used every time

The person in charge of the kitchen should ensure that any food handlers that are involved in chilling food are competent in using the method. They should also be supervised to ensure the method is followed correctly at all times.

The full details of the method must be documented and recorded as part of the food safety management system (see Section 5.9)

Figure 8: Example of a Blast Chiller



**Step 3: Verify the cooling process routinely.**

Once a method has been proved to work (step 1) and the method is followed also every time (step 2), then the business should be confident that chilling process is safe. However, it is sometimes useful to also double check or verify on a regular basis. The frequency of these routine checks will depend on the size and nature of the business. Further guidance will be issued by ADFCA concerning any specific verification requirements (see Section 5.9).

**2.3 Freezing**

[Article 30]

Foods shall maintain the following temperatures:

- a- Maintaining refrigerated /chilled food below (5) C
- b- Maintaining frozen food at or below (-18) C
- c- All other foods, including shelf stable, shall be maintained at suitable temperature that prevent risk to human health, as appropriate for the particular food.

[Article 88]

Chiller/refrigerator temperatures should be maintained at all times and sufficient precautions should be in place in case of power failure.

**Harmful bacteria will not grow in food that is frozen**

**2.3.1 Safe use of the freezer**

- A. Follow manufacturer's instructions for use.
- B. Ensure deliveries of frozen food are transferred to the freezer as soon as they are delivered.
- C. If freezing freshly prepared foods ensure they are frozen immediately after cooking.
- D. Add a date label to all frozen foods prepared in the kitchen.

**2.3.2 What to do if the freezer breaks down**

Freezers are very robust and have few problems if used and maintained according to manufacturer's instructions. However, if a freezer is found not to be working correctly, action must be taken:

- A. **Food that is still frozen** (i.e. hard and icy) should be moved to an alternative freezer. If there is not an alternative freezer, defrost food and use immediately.
- B. **Food that has begun to defrost** (i.e. starting to get soft and/or with liquid coming out of it) should be moved to a suitable place to continue defrosting for immediate use
- C. **Fully defrosted food** (i.e. soft) but still at a safe temperature. Food should be cooked, if appropriate (e.g. raw meat, poultry and fish), until it is piping hot all the way through. If this is not possible, throw it away.
- D. **Food that has to be kept frozen** (e.g. ice cream) cannot be re-frozen once it has started to defrost. You will have to use it immediately or throw it away.

**2.4 Thawing of food**

[Article 33]

The thawing process of food shall be undertaken in such a way as to minimise the risk of growth of pathogenic microorganisms or the formation of toxins in the food, where it shall be subject to temperatures that would not result in a risk to health.

**Harmful bacteria can grow in food that is not defrosted properly**

**2.4.1 Safe thawing of food**

- A. Follow manufacturer's instructions for thawing of foods purchased frozen. Some products are formulated to be directly cooked from frozen.
- B. If regularly thawing large quantities of food it is advisable to purchase and use specialist equipment, such as a defrosting cabinet. This equipment is designed to thaw food safely in the fastest time possible and often involves a defrosting cycle operating at temperatures of between 12-15 C. Manufacturer's instructions should be followed to ensure that the temperature of the food does not rise above 5 C.
- C. Frozen food should be thawed evenly by ensuring that there is adequate air circulation between items. For example, bulk items should be separated and the stacking boxes of frozen product should be avoided.
- D. The thawing of raw and ready-to-eat foods present different risks. Raw foods will be cooked and made safe after the thawing process. However, for ready-to-eat foods there is no further cooking process. The controls for raw food are therefore focused on the prevention of cross contamination to other foods during the thawing process. The controls for ready-to-eat foods are focused on preventing the recontamination and growth of harmful bacteria during, and after, the thawing process.
- E. Thawing cooked and other ready-to-eat foods:
  - a. Should be thawed as quickly as possible to prevent the growth of harmful bacteria. The temperature of the food should be kept below 5 C.
  - b. The chiller is therefore the safest place for the thawing of ready-to-eat foods (unless specialist equipment is available).
  - c. Re-contamination with harmful bacteria should be prevented by appropriate separation and / or packaging.
- F. Thawing raw foods that will be subsequently cooked:
 

Raw foods will be cooked after thawing and made safe. However, there is serious risk of cross contamination when frozen raw foods (especially poultry and meat) during the thawing process. This occurs when harmful bacteria from the raw food contaminate foods that are ready-to-eat. It is therefore critical to ensure all procedures to prevent cross-contamination during the thawing are followed (see Chapter 4).

  - a. Frozen raw foods should therefore be defrosted in a covered container away from food preparation areas.
  - b. When thawing is complete raw food should be prepared /cooked or moved to a cold storage area.
  - c. Raw foods should be thawed completely to ensure even cooking and prevent the survival of harmful bacteria.

The thawing methods that are used in the business will depend on the type of food (raw or ready-to-eat), the menu items, quantities required and available equipment. All methods should be checked to ensure they are safe (validated). See section 5.5

**2.5 Management responsibilities**

To ensure that food is always cooled quickly food handlers should follow the methods describe in this Chapter. However, it is also necessary for the owner/manager to provide appropriate equipment and to ensure adequate training & supervision. A summary of relevant responsibilities is listed below, with further details in the Management Chapter (see Section 5.9).

The food business operator should:

- A. Provide suitable equipment to enable safe chilling, chilled storage, freezing and thawing (see Section 5.5).
- B. Ensure that any chilled or frozen food delivered to other venues is kept at or below the required temperatures (see Section 5.6).
- C. Ensure a system of preventative maintenance is in place for all chilling and freezing equipment (see Section 3.5 & 5.5).
- D. Ensure that temperature probes are calibrated and Safe Operating Procedures (SOPs) are developed for

disinfection and correct use (see Section 5.5.3).

- E. Develop SOPs for use of chilled storage areas/equipment, chilling methods, freezing and thawing (see Section 5.9).
- F. Train and monitor food handlers to ensure that the SOPs are followed (see Section 5.2 & 5.9).



### 3. CLEANING

*Article (12) section (a)*

*The food establishment shall be located in suitable location, kept clean and maintained in good condition.*

*Article (21)*

*Cleaning agents, disinfectants or any other materials or articles that can reasonably be expected to come into contact with food or to transfer their constituents to food:*

*Shall meet food grade specifications.*

*Shall be identified, held and stored in separate areas from where food is handled and in a manner that protects against contamination of food, food-contact surfaces, or food packaging materials.*

*Article (22) section (b)*

*All equipment and containers other than one-only use (disposable) containers and packaging material, which comes into direct contact with food shall:*

*Be effectively cleaned and, where necessary after cleaning be disinfected, with the exception of non-returnable containers and packaging. Cleaning and disinfection shall take place at a frequency sufficient to avoid any risk of contamination.*

*Article (54) section (a)*

*Areas where food is washed should be separate from areas where utensils or equipment are washed. All areas should be kept clean and, where appropriate, disinfected after cleaning.*

*Article (90)*

*All equipment and serving utensils used at food display counters must be food grade, inert, easily cleaned and disinfected prior to use.*

**Effective cleaning is essential to remove harmful bacteria and prevent the contamination of food**

#### 3.1 Cleaning effectively

The term cleaning is used to describe the process of removing dirt and grease. However, in food businesses, cleaning can also involve a extra step of 'disinfection' to kill harmful bacteria.

It is important that decisions are made as to which items needs disinfection and the appropriate chemicals, methods and equipment that should be used. This information is usually documented in a 'cleaning schedule' (see Section 3.3 below).

##### 3.1.1 Safe use of chemicals

- A. Bringing chemicals into food businesses must be controlled to avoid both the contamination of food and hazards to employees and the public.
- B. Cleaning chemicals should be used according to manufacturer's instructions with the appropriate protective clothing and equipment.
- C. All chemicals that come into direct contact with foods or food surfaces must be safe for that purpose and should be identified as 'food grade'.
- D. Chemicals should be used only where necessary in order to reduce costs and protect the environment.



### 3.1.2 'Clear and clean as you go'

The amount of cleaning, and the potential for cross contamination (see Chapter 4), can be reduced if food handlers work in an organized manner. For example:

- Removing outer packing and boxes before bringing food into the kitchen will keep reduce the amount of floor cleaning that is required.
- Keeping work surfaces free of clutter and making sure that dirty equipment is moved directly to the wash up area after use will make cleaning easier.
- Removing waste regularly from waste containers will reduce cleaning and pests (see Section 4.7).
- Cleaning up spillages immediately prevents the food drying onto surfaces.
- Washing and disinfecting surfaces thoroughly between tasks. New cloths (or ones that has been cleaned and disinfected) should be used to clean surfaces. This will prevent dirt and bacteria from spreading onto other foods from the surface.

### 3.1.3 High and low risk surfaces

Kitchen surfaces that come into contact with either food, or the hands of those preparing food, should be disinfected after washing, in order to stop harmful bacteria spreading around the kitchen. These surfaces are referred to as high risk. Surfaces that do not come into contact with food are described as low risk. Examples are provided below.

#### High risk surfaces

- Equipment such as chopping boards, knives, temperature probes, tongs etc.
- Equipment such as chilled storage units, fridges and freezers.
- Work preparation surfaces e.g. kitchen tables.
- Surfaces that food handlers frequently touch such as sinks, taps, door handles, switches and can openers.

#### Low risk surfaces

- Dishwashers.
- Dry store areas.
- Floors.
- Ceilings, walls and doors.
- Service counters.
- Ovens and equipment that will get hot (and kill harmful bacteria) during use.

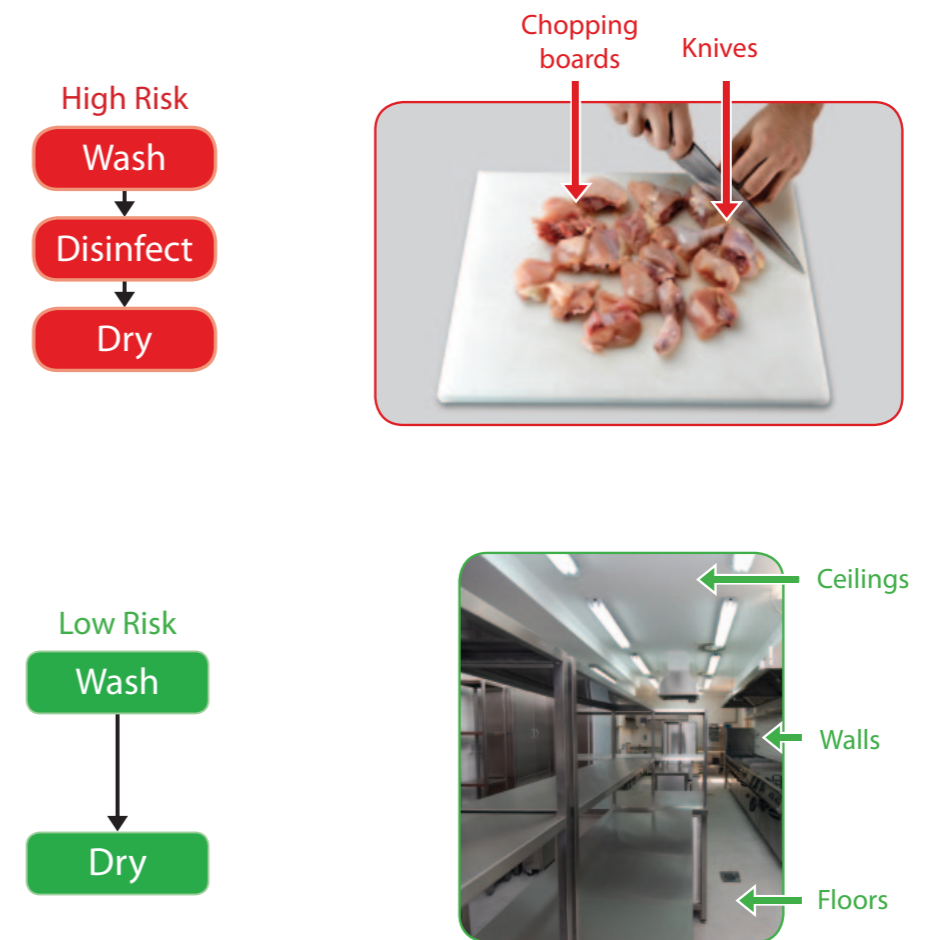
### 3.2 Cleaning low risk surfaces

Items that do not come into contact with food are not a high priority but should be washed effectively to remove dirt, grease and any food. The steps can be seen in Figure 10.

Thorough cleaning can be achieved by:

- Pre-scraping the utensil or surface to remove most of the food residue present.
- Using warm water, detergent and agitation to remove food residue.
- Rinsing the detergent and food residue away.
- Air-drying or use of clean cloths.

Figure 10. The process of high risk and low risk cleaning



### 3.3 Cleaning high risk surfaces

The cleaning of food contact surfaces involves an extra step of disinfection. This can be achieved using hot water, steam, chemicals or equipment such as dishwashers.

#### 3.3.1 Methods of disinfection

Hot water, steam or chemicals are usually used in commercial kitchens to disinfect high risk surfaces. The following section describes the methods in common use:

##### Hot water / steam disinfection

Hot water can be used to disinfect surfaces. However, this requires a minimum temperature of 82°C posing personal safety issues for the food handlers in the business. With the exception of the cleaning of small equipment, such as the removable parts of mixers and mincers, this method is therefore not used extensively.

Steam is a very effective disinfectant as it not only kills harmful bacteria but also most bacterial spores. However, it is not practical or safe in most situations and specialist equipment is required.

##### Commercial dishwashers

Commercial dishwashers can be used to effectively disinfect equipment provided the manufacturer's instructions are followed. Dishwashers should be used whenever possible, especially for chopping boards and knives.

##### Chemical disinfectants

Chemicals can be used to effectively and cheaply disinfect food contact surfaces. Advice on which chemicals are safe for use in a food environment can be obtained from the supplier or manufacturer.



Disinfectants will only be effective if they are used in the correct concentrations and the manufacturers' instructions are followed. The effectiveness of chemical disinfectants can be directly affected by the temperature, pH, concentration of the disinfectant solution used (too little or too much) and the hardness of the water

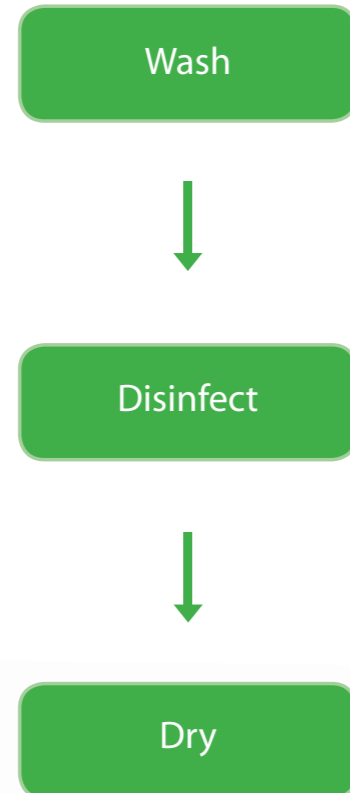
It is important to wash before disinfection for the following reasons:

- Food residue or other soil left after the cleaning process will protect the bacteria from the disinfection step.
- Food residue or other soil left after the cleaning process will react with the disinfectant, making the disinfectant less effective against microorganisms.
- Thorough cleaning will physically remove most of the microorganisms present.
- The heat used to clean is critical in contributing to the total heat needed to effectively disinfect (by heat).
- The method of drying is also important. After the disinfectant has been applied for the necessary time, the instructions should indicate whether the disinfectant needs to be rinsed off or air dried. It is very important to avoid re-contamination by using dirty cloths etc.

#### Chemical 'sanitizers'

Detergents containing disinfectants (often referred to as 'sanitizers') are not required in Food Service premises. They are expensive and mostly ineffective on surfaces where there is significant grease (as found in most kitchens). If such products are used, they are unlikely to be able to clean and disinfect a surface to the standard required. Therefore, a separate disinfecting step is still likely to be needed, so further increasing the cost.

Figure 11: Typical disinfection steps



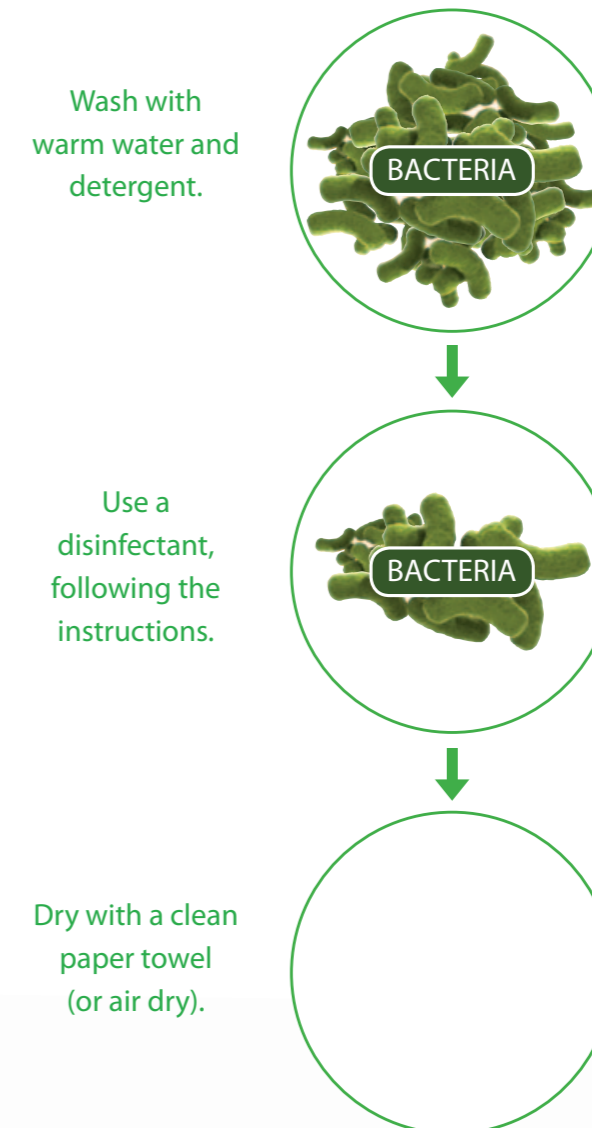
[Advice on whether a sanitizer (detergent that contains a disinfectant) can adequately clean and disinfect in a commercial kitchen should be sought from the manufacturer or supplier of the product.]

Equipment that is used for long periods to prepare high risk foods may need to be cleaned and disinfected during use. If an appliance is used continuously or intermittently for food preparation residues remaining on this surface may become a source of contamination to foods that will later come into contact with the equipment.

**Example:** if a meat slicer is used to slice cooked meat all day, it should be cleaned and disinfected at regular intervals to prevent cross contamination occurring. Meat residues left on the slicer throughout the day provide an ideal breeding ground for harmful bacteria to grow. These bacteria can then be transferred to meats sliced on the machine at a later time.

Other examples are chopping boards that are often used for long periods of time to prepare for example, sandwiches or sushi. They should be regularly replaced with clean boards.

Figure 12: The effect of disinfection on harmful bacteria



### 3.4 Cleaning schedules

**A cleaning schedule is a useful tool to help you clean effectively in your business.**

The cleaning of buildings, premises, equipment, kitchen utensils and all other physical facilities of the premises should have a planned written schedule describing all cleaning activities.

#### 3.4.1 Making a cleaning schedule

The person in charge of the business should walk through the premises and make a list of everything that needs cleaning including both low and high risk items.

A schedule can be constructed after the full list of items has been identified.

The cleaning schedule should describe:

- The item that is to be cleaned.
- The method of cleaning.
- The frequency of cleaning
- The equipment and cleaning materials to be used.
- The person who is responsible for the cleaning

The cleaning schedule can be designed in any way that is useful to the business. An example of a typical layout can be seen in Appendix 1. It is important to remember that the schedule is only a reminder of 'who, when, where and what' and additional SOPs will be needed that fully document the details of the cleaning methods used.

### 3.5 Maintenance

*Article (12) section (a)*

*a. The food establishment shall be located in suitable location, kept clean and maintained in good condition.*

**Premises, equipment and surfaces should be kept in good repair to reduce the spread of harmful bacteria**

#### 3.5.1 Preventative maintenance

Food premises, fixtures, fittings and equipment and those parts of vehicles that are used to transport food need to be properly maintained to prevent food safety problems. This is to:

- Stop contamination of food from flaking plaster, paint, timber, broken glass, leaking pipes, lubricants etc.
- Enable effective cleaning and, if necessary, disinfection.
- Ensure pests do not gain access to the building or vehicle from holes in ceilings, walls, etc.
- Ensure the equipment works as intended.

Items should therefore be kept in a 'good state of repair' and be in 'working order'. A 'good state of repair' means that things are not broken, split, chipped, worn out, etc. Working order' means that every item must work as the manufacturer intended.

It is important that a food business must not use any chipped, broken or cracked utensils or equipment for handling food. Such items a food safety risk for the following reasons:

- They cannot be effectively cleaned and disinfected 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.

### 3.5.2 Making a maintenance schedule

The person in charge of the business should walk through the premises and make a list of all items that require regular 'preventative' maintenance.

A schedule can be constructed after the full list of items has been identified.

The maintenance schedule should describe:

- The items that need regular maintenance checks.
- How the maintenance checks will be done.
- The frequency of the maintenance checks.
- The equipment that is needed.
- The person who is responsible for the maintenance check.

The maintenance schedule can be designed in any way that is useful to the business. It is important to remember that the schedule is only a reminder of 'who, when, where and what' and additional SOPs will be needed that fully document the details of the maintenance methods used.

### 3.6 Management responsibilities

To ensure that safe cleaning methods and preventative maintenance are always carried out the food handlers should follow the advice described in this Chapter. However, it is also necessary for the owner/manager to provide appropriate equipment and to ensure adequate training & supervision. A summary of relevant responsibilities is listed below, with further details in the Management Chapter (see Sections 5.2-5.9).

The food business operator should:

- Provide suitable equipment and safe chemicals to enable effective cleaning and preventative maintenance (see Section 5.3).
- Ensure that the regular maintenance on all temperature control equipment includes calibration checks (see Section 5.5).
- Develop SOPs for all cleaning and maintenance activities (see Section 5.9).
- Train and monitor food handlers to ensure that the SOPs are followed (see Section 5.2 & 5.9).



## 4 CROSS CONTAMINATION

### Article (42)

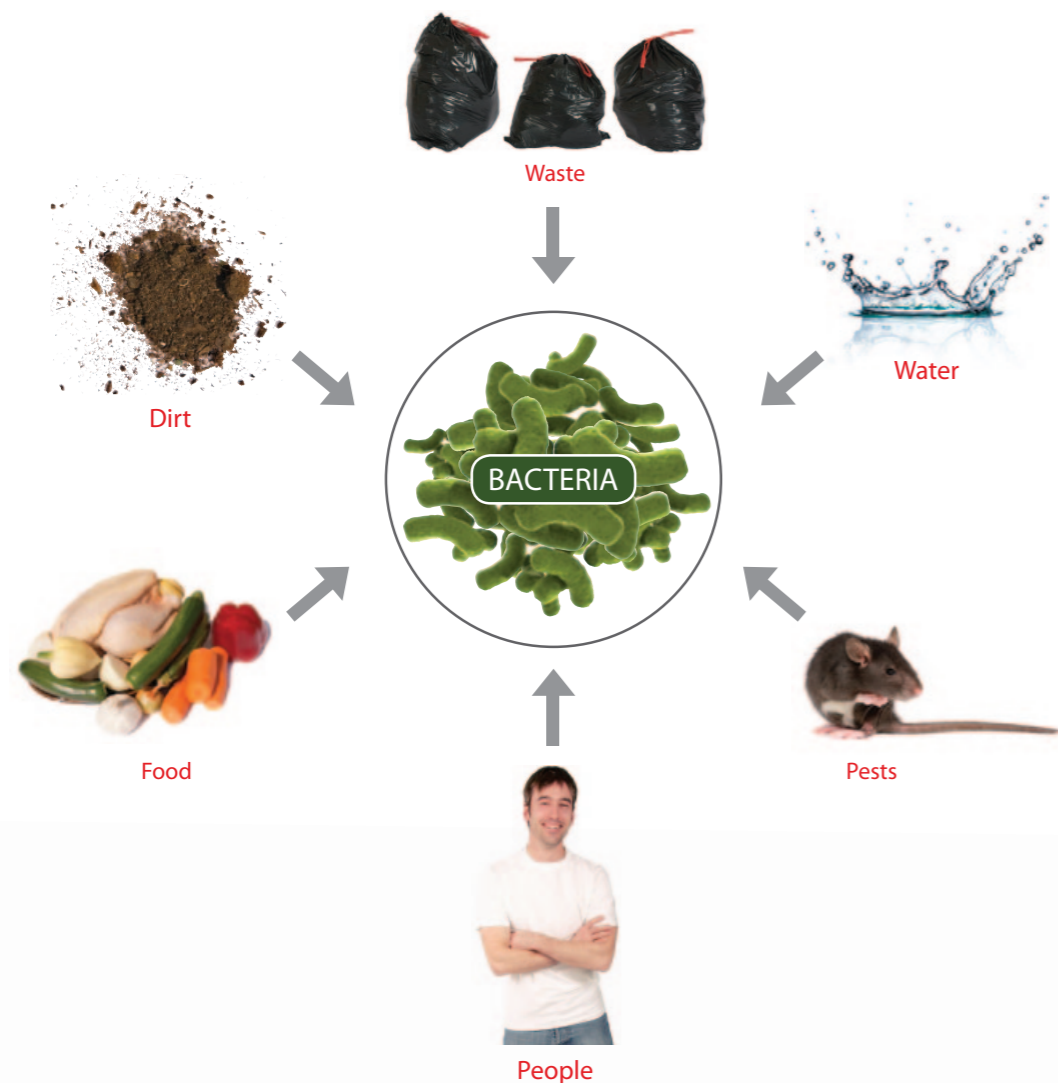
At all stages of food chain, food must be protected against any contamination likely to render the food unfit for human consumption, injurious to health or contaminated in such a way that it would be unreasonable to expect it to be consumed.

### 4.1 Introduction

Cross contamination is one of the common causes of food borne disease. It happens when harmful bacteria are spread onto food from other food surfaces, hands or equipment. These harmful bacteria often come from raw meat, poultry and eggs. It is especially important to handle these foods carefully. Other sources of harmful bacteria are people, pests, equipment, cloths and water (as can be seen in Figure 13 below).

Food should also be protected from 'physical contamination' (e.g. pieces of broken glass or metal) and chemical contamination (e.g. cleaning products, pest control chemicals).

Figure 13: Sources of harmful bacterial contamination



## 4.2 Hand-washing

### Article (27)

Food handlers shall always wash and, where necessary disinfect their hands, including the start of food handling activities, immediately after using the toilet and after handling raw food or any contaminated material.

**Hands can easily spread harmful bacteria. They must be thoroughly washed and dried in between task, especially before touching ready- to - eat food and after touching raw food**

### 4.2.1 How to wash hands effectively

#### Use designated hand-wash sinks.

Food handlers must wash their hands in the wash basin or designated sink provided. Other kitchen sinks can contaminate the hands with harmful bacteria from raw foods, waste and cleaning chemicals. Food handlers need to have access to hand washing facilities at all times.

#### Use the four step method

1. Rinse hands in warm running water.
2. Add soap and wash. Hands must be washed 'thoroughly'. This means that the food handler must vigorously wash the entire surface of his or her hands including the undersurface of nails, using soap or other effective means. Soap helps remove grease, dirt and bacteria from hands. Food handlers may use any type of soap to wash their hands. Antibacterial products are not required as ordinary soap is effective in performing these functions.
3. Rinse hands before drying. Hands are rinsed before drying to completely remove all the cleaning products.
4. Thoroughly dry hands. Food handlers are required to thoroughly dry their hands after hand washing. It is not sufficient for food handlers to give their hands a quick wipe with a towel. The provision of single use towels is the most efficient and effective method of hand-drying. If reusable towels are used for hand drying, they can only be used once and must be washed and dried before being reused.

Figure 14: Four easy steps for hand washing



### 4.2.2 When to wash hands

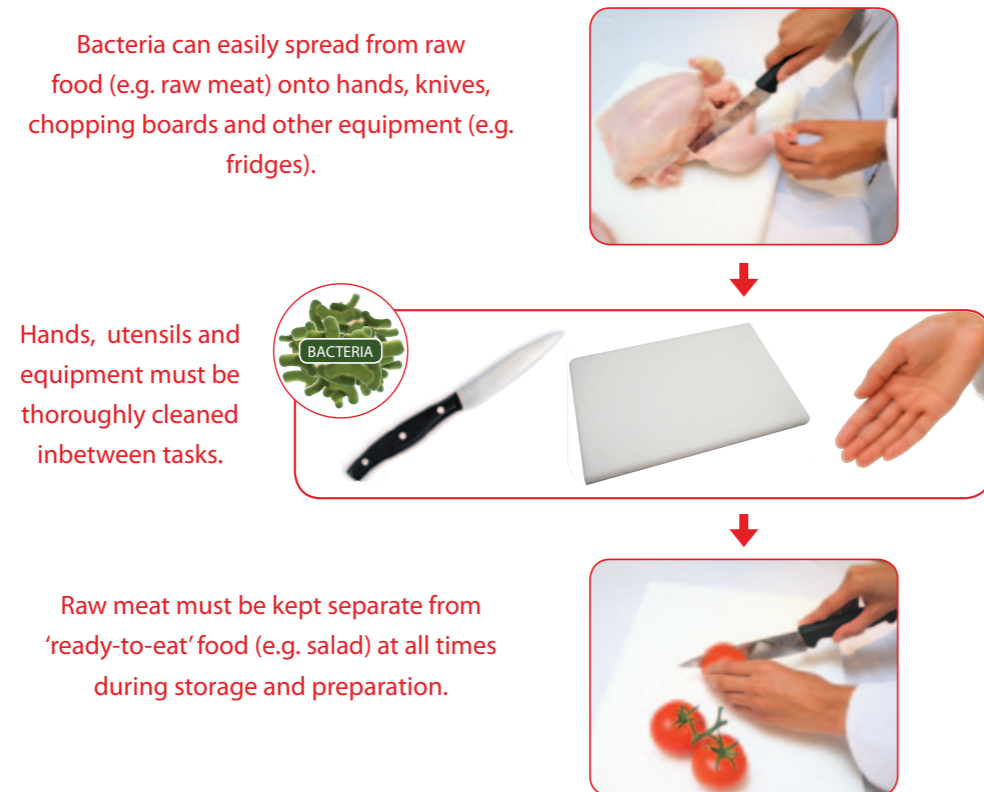
Hands should be washed whenever there is a possibility that they can directly contaminate food. The three most important times are explained below but others, such as: after handling money, using cleaning chemicals, emptying waste bins, should also be remembered.

1. **When entering the kitchen (after going to the toilet or leaving the kitchen for a break).** Food handlers should wash their hands before entering the kitchen. This includes at the start of the day and after breaks, smoking, eating or using the toilet. It is essential that food handlers understand that hands can become highly contaminated with bacteria during toilet activities and this can result in direct illness of the food handler and to customers through food handling activities.



2. **After handling raw meat/poultry and eggs.** Food handlers must always wash their hands immediately after handling raw food during delivery, preparation or service. Most raw foods contain harmful bacteria from either the food itself (e.g. chicken) or from the soil (e.g. fruits and vegetables). However raw meat, poultry and eggs are currently considered to pose the greatest risk and it is essential for food handlers to always wash their hands after handling these items.
3. **Before handling 'high risk', ready-to-eat foods.** If harmful bacteria are transferred to foods that are not going to be heated again, such as humus, salads and sandwiches, they could multiply in the food and make it unsafe. It is essential to reduce this risk by washing hands thoroughly before preparing; wrapping or serving such foods as can be seen in Figure 15 below.

Figure 15: How hands can become contaminated.



### 4.3 Protective Clothing

Article (26)

Food handlers shall maintain a high degree of personal cleanliness and shall wear suitable, clean and protective clothing while handling food such as hair nets, gloves, masks, beard covers.

The human body contains many harmful bacteria. Clean protective clothing protects food handling areas from (1) bacteria on the skin and hair, and (2) clothes worn outside.

#### 4.3.1 Important aspects of kitchen uniforms

- A. The food handler must cover as much of the body as possible with clean protective clothing. This will minimise the contamination of food with the harmful bacteria that are found on the human body.
- B. Clothes may also contain harmful bacteria which might contaminate food. During working hours, all employees who come into contact with food, including temporary staff, must always wear protective clothing appropriate to the activities, which must be washable or be thrown away after use.

- C. Protective clothing should be light colored and washable. Jackets should have long sleeves to protect the food from contamination from the arms. If short-sleeved jackets are worn, arms must be washed thoroughly when entering the kitchen and between food preparation tasks.
- D. The use of disposable aprons for high risk jobs helps to minimize the risk of cross-contamination.
- E. Food handlers should not travel to their place of work in their protective clothing.
- F. Protective clothing should only be worn in food handling areas; they should be removed for toilet and other breaks.
- G. Visitors entering the production area (including subcontractors, maintenance personnel) should wear clean protective clothing.
- H. All food handlers who are in contact with exposed food must keep hair covered, and tied back if necessary. This is because hair can contaminate food directly if it drops into the food or indirectly if persons touch their hair and then food.
- I. Kitchen shoes should be clean (to avoid contaminating the kitchen with soil) and preferably used solely for work duties.
- J. Outdoor clothes and personal effects must be stored in a separate place where they do not come into contact either with food or working clothes. Therefore, changing facilities for the personnel should be installed outside the kitchen area and permit the total separation of everyday clothes from work clothes.
- K. Washing, disinfecting and drying of protective clothing and other accessories (such as aprons, caps) should be carried out by an external or on-side laundry.

Figure 16: Example of best practice for protective clothing





## 4.4 Personal Hygiene

Article (28)

Food handlers shall refrain from behaviours that may result in contamination of food such as wearing of jewellery, smoking, spitting, chewing, eating, sneezing, coughing over uncovered food or any other related behaviour.

**It is vital for food handlers to follow good personal hygiene practices to minimise the spread of harmful bacteria from spreading onto food.**

### 4.4.1 Avoid contaminating food and hands

- Food handlers should not smoke, drink, eat or chew gum whilst handling food.
- Food handlers should avoid touching their face or nose, or coughing and sneezing. If a food handler undertakes any one of these activities while handling food it is very likely that the hands of the food handler will become contaminated. The food handler is therefore required to wash his or her hands immediately after the completion of the activity, to remove this contamination.
- Food handlers should avoid unnecessary contact with surfaces likely to come into contact with food. For example, by handling clean glasses by the bottom and not the inside edges and using a clean spoon to taste food.
- Food handlers should wash their hands in any other situation where it is necessary to protect the food from contamination. For example: after handling garbage or performing cleaning duties such as mopping.
- Food handlers should keep their nails short to prevent contamination. Nail polish should not be used as this can hide dirt under the nails.
- Food handlers should not wear jewellery as this can trap dirt and become a source of contamination of harmful bacteria. Items include wedding and other rings, watches, face studs and ear rings.
- Waterproof coverings are required on exposed parts of the body to prevent any seepage from cuts or wounds that may contaminate the food either directly or indirectly if the food handler touches the dressing.

### 4.4.2 Reduce direct hand contact with food

Many harmful bacteria are found on the human body. A food handler may therefore, unknowingly, easily contaminate food from contact with hands. This is especially important for high risk 'ready-to-eat' foods that will not undergo any further heating. It is therefore important that contact with ready-to-eat food is kept to a minimum.

Practical measures the food handler can take to prevent unnecessary contact with ready-to eat food include:

- Tongs or other utensils can be used to handle the food.
- Gloves can be as a barrier between the hands and food. However they are only effective if changed between tasks.
- Paper, food grade plastics and other materials can be used.

Figure 17: Safe hand hygiene



The use of hands in direct contact with ready-to-eat food may be necessary in some circumstances, for example, making cake decorations or other intricate foods. If direct hand contact is necessary, hands must be thoroughly washed and dried before the food is handled.

## 4.5 Kitchen hygiene

[Article 52]

Effective measures shall be taken to prevent cross contamination to ensure separation of raw food, food in process and ready-to-eat food, including utensils and cutting boards.

[Article 86]

When displaying food, practicable measures shall be taken to protect food from the likelihood of contamination with the provision of separate serving utensils for each food or other dispensing methods that minimize the likelihood of the food being contaminated.

Article (87)

Raw food displayed in chillers and freezers shall be adequately separated from ready to eat food to prevent contamination.

[Article 89]

In case of displaying unpackaged food and ready to eat food:

Food shall be displayed behind protective barriers, at appropriate temperatures, to prevent the likelihood of food contamination. Separate serving utensils or other dispensing methods, shall be provided for each food

[Article 90]

All equipment and serving utensils used at food display counters must be food grade, inert, easily cleaned and disinfected prior to use.

**Work practices in the kitchen should be organised to reduce the risk of cross contamination from equipment and food. Food handlers should understand the risks and follow safe practices at all times**

### 4.5.1 Equipment

Equipment that comes into direct contact with high risk food should be cleaned and disinfected after use to avoid cross contamination. In particular the use of chopping boards and knives must be controlled particularly after preparation that involves raw meat, poultry and eggs. The following steps are advised:

- Before use:** select clean, dry chopping board and knives.
- After use:** Remove, wash, disinfect and dry chopping board and knives. The dishwasher is the most effective method of cleaning these items.

### 4.5.2 Cloths

Cloths are one of the top causes of cross contamination in kitchens. It is therefore essential that they are used safely to prevent harmful bacteria from spreading. The following points represent best practice:

- Single-use cloths (e.g. kitchen paper) should be used for all tasks that involve areas and equipment that come into contact with food (e.g. drying / wiping food preparation surfaces, kitchen knives), because this will reduce the risk of cross-contamination.
- If re-usable cloths are used, they must be removed for cleaning (e.g. laundered or washed in hot water with detergent) and completely dried after they are used with raw meat, poultry, eggs and surfaces / equipment these foods have come into contact with.
- Thick re-usable cloths may be required for handling hot items (e.g. lifting trays out of ovens) but these should not be used for other tasks.
- Cloths, scourers and sponges used for equipment cleaning should be washed and dried thoroughly at the end of every shift.

Figure 18: Safe use of cloths.



#### 4.5.3 Separation of foods in the kitchen

During the movement of food through the kitchen there are many opportunities for cross contamination. Separation, either physically or by time, should be ensured.

- A. **Delivery:** Plan delivery times so that, if possible, raw meat and poultry arrive at different times from other foods. Unload deliveries in a clean and separate area. Remove and throw away outer packaging before storage.
- B. **Thawing:** Keep foods that are thawing in the cold room, refrigerator, defrost chiller or separate area of the kitchen. The juices/packaging must not come into contact with other food (see also Section 2.4.1)
- C. **Storage:** Store raw food separately from ready to eat foods. If they are in the same refrigerator raw food should be stored below ready to eat foods (see Figure 19).
- D. **Preparation:** Prepare raw meat and poultry in separate areas. If this is not possible, prepare at different times and clean and disinfect the area thoroughly in between these tasks. Ensure that chopping boards and knives are also washed and disinfected between use.
- E. **Cooking:** Ensure raw meat and poultry does not touch or drip onto cooked food. This is especially important on the barbecue, grill or rotisserie.
- F. **Holding:** Raw foods that are kept hot or cold for service should be kept separate from cooked foods.

Figure 19: Safe separation of raw and cooked foods in a refrigerator



#### 4.5.5 Display of food in a restaurant

A food business must not display ready-to-eat food unless it is enclosed, contained or wrapped so that the food is protected from likely contamination both from food to food and also directly from customers.

- A. **Provide separate serving utensils for each food.** This will minimize the contamination by encouraging consumers not to handle the food and prevents contamination from one food being transferred to another.
- B. **Provide protective barriers.** Physical barriers between customers and the food discourage direct hand contact but also ensure that contamination from aerosols (from customers' coughs and sneezes) is minimized. Ideally, a protective barrier should be provided by the use of permanent display units. However, it is recognized that for temporary displays, other mechanisms will need to be used to protect the displayed food from contamination. For example, if food is being displayed for self-service as part of an outdoor wedding, a permanent display unit may not be available. In such situations, dishes with removable covers, for example chafing dishes, need to be provided. These covers need to remain available so that they can be placed back on the food when the customers have finished serving themselves.

Figure 20: Display equipment



#### 4.5.6 'Clear and clean as you go'

The risks of cross contamination are reduced in the kitchen if food handlers can ensure that they can work in an organized manner. For example: cleaning areas after each task; removing waste regularly; cleaning up spillages immediately they happen; keeping all working surfaces clear of unnecessary food and equipment. (for further details see Chapter 3)



## 4.6 Fitness for Work

[Article 6]

The food business operator shall ensure, concerning the health status of food handlers, the following:

(a) Food handlers are medically fit to work and maintain records of absences for infected employees or carriers of any disease that may pose a risk to food safety.

(b) Directing food handlers suffering from or being a carrier of a disease to report immediately any symptoms that may pose a risk to food safety. Resumption of duties must not be allowed, unless they are medically examined prior to returning to work, for 48 hours after symptoms have ceased. For diseases & symptoms stated in section (c) of this article.

(c) Food handlers are free from infectious gastrointestinal illnesses, Tuberculosis, infected skin lesions or cuts on exposed parts of the body, any discharge from eyes, ear, nose or mouth or acute streptococcal sore throat, including symptoms of jaundice, diarrhoea, vomiting and fever.

[Article 25]

(a) Food handlers suffering from or being a carrier of a disease likely to be transmitted through food shall not be permitted to handle food or enter any food-handling area if there is any likelihood of direct or indirect contamination.

(b) Personnel with cuts and wounds, who are permitted to continue working, shall cover them by suitable waterproof dressings.

**Food handlers should be 'fit for work' at all times. This means that they should not be suffering from, or carrying, an illness or disease that could spread harmful bacteria onto food and cause food borne disease.**

It is important for both food handlers and managers to know how to prevent the spread of food borne disease directly from infected food handlers. This involves recognizing the symptoms and taking appropriate action.

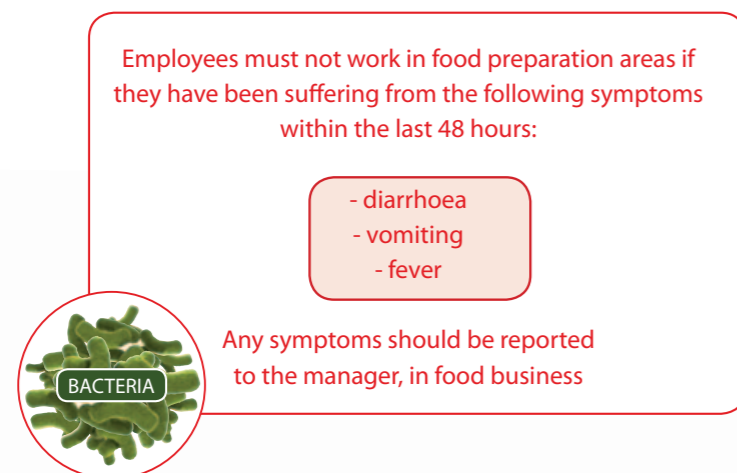
The following text explains the main principles but further details are provided in Appendix 2.

### 4.6.1 Symptoms that indicate potential risk

The symptoms of food borne disease are:

- A. Jaundice.
- B. Diarrhoea.
- C. Vomiting.
- D. Fever.
- E. Sore throat with fever.

Figure 21: Reportable symptoms of the food borne disease



### 4.6.2 Responsibilities

- **Food Handlers responsibility:** Food handlers who suffer from any of the specified symptoms (described above) or who have been in contact with others who have food borne disease symptoms, or suspect that they may be a carrier of food borne disease, should report to their manager (see Figure 21 above).
- **Manager's responsibility:** It is the duty of the manager to advise the food handler of the appropriate course of action. This may involve exclusion from work altogether, exclusion from certain activities as described below, or the need for a medical examination.

### 4.6.3 Action if symptoms occur at the food business

If any of the symptoms, described above, occur at work the food handler should be advised on the appropriate course of action by the manager.

It is also important that any contaminated areas and all contaminated surfaces, equipment and utensils should be washed and disinfected. Any food that may have been contaminated should be disposed of. Toilet handles, taps and surfaces must be washed and disinfected after contact with anyone reporting diarrhoea or vomiting.

### 4.6.4 Return to work policy

- **Intoxications:** If there is only one bout of diarrhoea and vomiting in a 24-hour period, and there is no fever, the person may resume food handling duties when symptoms are gone. They should be reminded of the importance of good hygiene practice, particularly hand washing. If symptoms persist, the person should seek medical advice (see Appendix 2).
- **Infections:** If the symptoms persist then this is likely to be a gastrointestinal infection and medical advice should be sought. Requirements for return to work following such an illness, in general, would be no symptoms for 48 hours once any treatment has ceased. However, there are certain infections for which greater controls are necessary. The most important of these are described in Appendix 2, but in all cases a diagnosis and guidance from a medical practitioner would be required.

### 4.6.5 Cuts and infected skin lesions

- **Skin conditions:** Food Handlers with lesions on exposed skin (hands, face, neck or scalp) that are actively weeping or discharging must be excluded from work until the lesions have healed. An infection of the finger nail-bed (whitlow) or a boil on the face or other exposed skin, even if covered with a suitable waterproof dressing, will usually be considered a bar to working as a food handler. The importance of meticulous hand hygiene should be emphasised. Clean wounds/cuts must be totally covered with a distinctively coloured waterproof dressing but there is no need to discontinue food handling.
- **Infections of the eyes, ears and mouth:** Any food handler whose eyes, ears, mouth or gums are weeping or discharging must be excluded from food handling until they are better.

### 4.6.6 Conditions not associated with food

- **Non-infected gastrointestinal disorders:** Disorders such as Crohn's disease or ulcerative colitis are not a barrier to employment as a food handler even though they may result in diarrhoea. Such workers must be made aware of the need to seek medical advice and notify their managers if any change from their normal bowel habit occurs, as this must be assumed to be infectious until proven otherwise.
- **Chest and other respiratory diseases:** There is no evidence that these can cause food borne infection. Coughing and sneezing over food is not hygienically acceptable and employees may need to be excluded from food handling for this reason. If allowed to stay at work, the need for thorough hand washing must be emphasized. Tuberculosis is not spread through food handling, however, the disease may affect an individual's general health so as to make them unfit for work and they may pose a risk of infection to

others in the workplace.

#### 4.7 Pest control

[Article 12] section (b)]

The establishment shall not be located anywhere where, after considering such protective measures, it is clear that there will remain a risk to food safety or suitability. In particular, establishments should normally be located away from:

.Environmentally polluted areas and industrial activities.

Areas prone to infestations of pests.

Areas where wastes, either solid or liquid, cannot be removed effectively.

[Article 13] section (e)]

The layout, design, construction and size of food establishment shall Permit good food hygiene practices, including protection against cross-contamination, pest access and infestation

[Article 15]

Buildings should be kept in good repair and condition to prevent pest access and to eliminate potential infestation sites. Holes, drains and other places where pests are likely to gain access should be kept sealed.

[Article 22] section (e)]

Equipment shall be durable and movable or capable of being disassembled to allow for proper maintenance, cleaning, disinfection, and monitoring for pests. Where necessary, cleaning of large-sized equipment shall be in separate washing facilities

**Effective pest control is essential to keep pests out of food premises and prevent them from spreading harmful bacteria to food from faeces, urine, feet and fur.**

##### 4.7.1 Prohibit animals

- A food business must not permit live animals in areas in which food is handled, other than seafood.
- Live seafood is permitted in areas in which food is handled to allow food businesses to keep decorative fish in tanks and to allow businesses to keep and sell live seafood on the premises.

##### 4.7.2 Prevent access to pests

The food business operator should do all that it practical to prevent pests from entering the food premises by taking the following steps:

- Provide a suitable location, design and construction for the food premises.
- Provide screens to doors and openings and repair screens if they become damaged.
- Provide self-closing doors, double doors or air curtains at door entries.
- Ensure there are no holes or gaps in ceilings, walls and floors.
- Ensure all food and ingredients is stored in pest proof containers, away from walls and off the floor.

##### 4.7.3 Ensure preventative maintenance

The food business operator should ensure that the premises, fixtures, fittings and equipment (and those parts of vehicles that are used to transport food) are properly maintained to ensure pests do not gain access or find places to breed (see Section 3.5).

##### 4.7.4 Good preventative practices

- Ensure a high standard of cleanliness to prevent the accumulation of materials that will attract pests such as food waste recycled materials and other garbage (see also Section 3.1.2 and 4.7.5)
- Ensure food is stored correctly and spillages are cleaned immediately. Food should never be left out at the end of the day.

C. Ensure that there is no unnecessary equipment stored on the food premises.

D. Check premises regularly for signs of pests.

E. Check deliveries thoroughly for signs of pests. Do not accept any foods that show signs of pests e.g. gnawed packaging or insects.

#### 4.7.5 Food waste

Article (95)

Food waste, non-edible by-products and other refuse shall be deposited in closable containers and disposed of appropriately. Containers shall be constructed of suitable leak-proof, impervious material that is easy to clean or disposable.

Article (97)

1. Adequate standard operating procedures for storage and disposal of food waste, non-edible by-products and other refuse shall be developed and implemented.
2. Design and management of refuse stores shall ensure that premises remain clean and free of animals and pests.
3. Refuse areas shall be, where necessary refrigerated, and include suitable wash out capability.

To prevent refuse from becoming a breeding ground for pests, food waste must be enclosed in suitable containers that are capable of being easily cleaned (see Section 5.3.13). Whilst it is not a general requirement for businesses to have refrigerated garbage rooms, this may be necessary for in some situations to prevent putrefaction and odour problems.

It is important that containers in open air storage areas must have tight fitting lids in order to keep flies and other pests away. However, these should not be hand operated to reduce the risk of cross contamination from the lids.

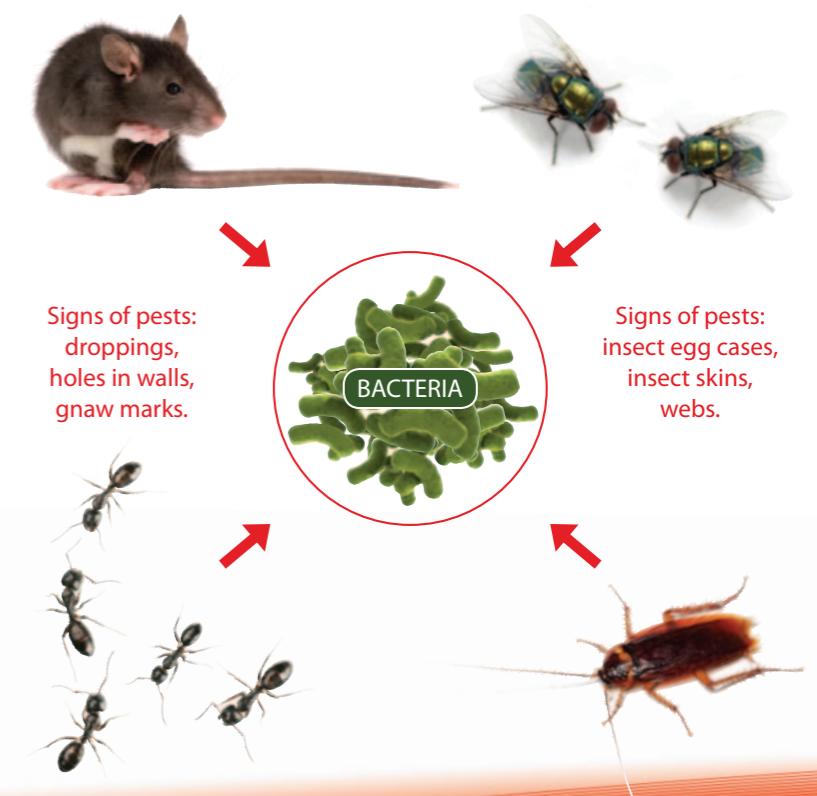
Lids may not be necessary on containers in sealed garbage rooms because pests should not be able to access the garbage. Recyclable material that does not attract pests but will afford harborage, such as dry cardboard and should be kept in an enclosure and removed regularly.

All refuse containers should be washed regularly but do not need to be disinfected. This is because food should not be in contact with the containers and hands should be washed after handling the containers if the next handling job could transfer contamination from the containers to food. Washing containers thoroughly with detergent and water should remove residues that are likely to attract pests (see Section 3.2).

#### 4.7.6 How to identify pests

The pests that are commonly associated with food borne disease are cockroaches, rodents, flies, ants and birds. It is important all food handlers are trained to identify pests and signs of pests (see Figure 22)

Figure 22: Examples of common pests





**4.7.7 Action if pests are found**

- A. Call a pest contractor to eradicate the problem. Physical (traps) and chemical control (baits) methods can be used.
- B. Any surfaces, equipment or utensils that could have been contaminated should be washed, disinfected and dried.
- C. If food may have been contaminated in any way, it should be disposed of.

**4.7.8 Contamination from pest control chemicals**

- A. It is important that all pest control chemicals are approved for use in the food industry. Manufacturer's instructions for the use of equipment/chemicals should always be followed.
- B. Care should be taken to prevent pest controls chemical do not contaminate food. Chemicals should not be used near exposed food. If this is unavoidable, non-spray chemicals should be used.
- C. If food does become contaminated or is likely to have become contaminated by chemicals it must be disposed of. If eating or drinking utensils or food contact surfaces are contaminated during treatment, they will need to be washed and disinfected before they are used(See Chapter3)

**4.7.9 Pest Control Contractors**

Employing a Waste Management Centre Approved Pest Control Company is required to ensure effective and safe control of pests in food businesses in Abu Dhabi. Approved companies are required to visit the business twice per month, provide a 24/7 contact telephone number, maintain a log book in the business etc. Further information can be obtained from the Abu Dhabi Waste Management Centre.

*[Article (21)]*

*Cleaning agents, disinfectants or any other materials or articles that can reasonably be expected to come into contact with food or to transfer their constituents to food:*

*(a) Shall meet food grade specifications.*

*(b) Shall be identified, held and stored in separate areas from where food is handled and in a manner that protects against contamination of food, food-contact surfaces, or food packaging materials.*

*[Article (24)]*

*Where chemical additives are used to prevent corrosion of equipment and containers, they shall be used in accordance with the manufacturer's instructions for its intended use. They must not contaminate the food or affect its stability to make it unfit for human consumption*

*[Article (61)]*

*Hazardous and/or inedible substances, including animal feed, shall be adequately labelled and stored in separate and secure containers.*

*[Article 96]*

*Containers used to hold dangerous substances should be labeled and, where appropriate, be lockable to prevent malicious or accidental contamination of food.*

**4.8 Physical and chemical contamination**

Foods must be protected from contamination by foreign bodies such as glass or metal shards from machinery, dust, harmful fumes and unwanted chemicals. In particular the following activities will reduce the risk of contamination from both physical and chemical contaminants:

- A. Follow manufacturer's instructions on how to use and store cleaning and other chemicals. Store chemicals separately from food and make sure they are labeled correctly.(see Section 4.8.1)

- B. Wash raw foods (e.g. vegetables) in potable water.
- C. Keep food covered.
- D. Control pests effectively.
- E. Always 'clear and clean as you go' and especially take care to throw away packaging as soon as food is unwrapped.
- F. Always follow best practice for protective clothing and hand hygiene.

**4.8.1 Separation of hazardous and chemical material**

There must be adequate storage facilities for items that are likely to be a source of food contamination, especially cleaning and other hazardous chemicals. Storage must be located where there is no likelihood of stored items contaminating food or food contact surfaces. Storage outside food preparation areas is preferable. This reduces the risk that contamination from the stored items will contaminate food. However, if this is not possible the storage should be provided in a cupboard, locker or other designated area. See Section 5.3.2.

**4.9 Management responsibilities**

To ensure that practices to prevent cross-contamination are always carried out the food handlers should follow the methods described in this Chapter. However, it is also necessary for the owner/manager to provide appropriate facilities and equipment to make sure this is possible. Suitable training & supervision will also be necessary. A summary of relevant responsibilities is listed below, with further details in the Management Chapter (see Section 5.1-5.9).

**The food business operator should:**

- A. Provide suitable facilities, equipment and materials to enable effective measures to be taken to prevent cross contamination (see Section5.3).
- B. Ensure that preventative maintenance is carried out on the building, facilities and equipment to prevent access and harborage of pests (see Section 5.5).
- C. Develop SOPs to ensure that cross contamination is avoided (see Section 5.9).
- D. Train and monitor food handlers to ensure that the SOPs are followed (see Section 5.2 & 5.9).



## 5 MANAGEMENT

### 5.1 The 'food business operator'

*[Article 3] The food business operator within the Emirate shall abide by the licensing requirements issued by the authority*

*[Article 4]*

*The food business operator within the Emirate shall abide by the regulation pertaining to food traceability and recall (one step forward-one step backward) and shall be used upon withdrawal and recall of unsafe food from the market*

*[Article 43]*

*Where non-HALAL food is handled, areas must be completely separated from those where HALAL food is handled.*

*[Article 85]*

*Temporary food premises shall acquire a Permit from the Authority for such a purpose.*

#### 5.1.1 Responsibility for food safety

The preparation and service of safe food requires active management in order to control the microbiological, chemical and physical hazards that are likely to occur.

**This requires the control of:**

- (1) The practices of food handlers.
- (2) The facilities, equipment and materials with which they work.

This Chapter concentrates on how this complex set of requirements can be achieved. Best practice for the individual components are first described and then the final Section 5.9 introduces a method of developing an approved system of 'food safety management'. Regulation 6 clearly identifies the person responsible for the safety of food served to customers as the food business operator.

#### 5.1.2 Licenses required to operate a Food Service business

The food business operator is required to obtain an ADFCA Certificate in order to proceed to apply for a license. The license is required before a Food Service business can be opened in the Emirate of Abu Dhabi.

In addition to the general license the operator is required to seek an additional license for any extension to the scope of activities. This includes (1) the handling of non-Halal food and (2) the use of temporary premises or mobile vehicles (see Section 5.4).

#### Non-Halal requirements

Non-Halal food and drink (for example pig products and alcohol) can only be prepared and/or served in 'licensed' premises, as described above. There are a number of specific requirements that have to be met. These include:

- A. A separate area and equipment for the preparation of non-Halal food and drinks.
- B. Practices that ensure complete control of cross-contamination of Halal from non-Halal food.
- C. Clear labelling so that non-Halal food cannot be consumed unknowingly.

#### 5.1.3 Traceability requirements

Recent food scares, both nationally and internationally, have made it essential for Governments to be able to trace food quickly if they receive evidence of unsafe food anywhere in the supply chain. ADFCA have issued requirements for traceability in line with international best practice as can be seen in Article 4 above.

Whilst most operators in the food chain have to be able to identify both their suppliers and customers (referred to as one step back and one step forward) it is not feasible for caterers or retailers to keep detailed records of their customers. However, it is required to keep full details of all suppliers with contact details, so that they can be contacted in case of emergency.

The following details represent a minimum of information required to comply with the Regulations:

- A. Supplier name.
- B. Address of supplier.

- C. Full contact details (including out of hours emergency numbers).
- D. Nature and description of the food supplied.
- E. Any supplier batch codes.
- F. The delivery date.

#### 5.1.4 Supply of food to 'clients'

It should be noted that food service 'contractors' have additional traceability responsibilities (compared to other sectors of the food service industry) because their end user is not the final consumer. They therefore have to provide evidence of not only the ability to track all suppliers (one-step-back) but also the provision of food to their clients (one-step-forward).

The following information should be available, either through invoices, delivery notes or other methods of record keeping:

- D. Customer (client) name.
- E. Customer (client) contact details.
- F. Foods supplied (e.g. batch numbers / date).
- G. Delivery details / date of receipt.
- H. Quantity received.

### 5.2 Food safety training requirements

*Article (5)*

*The food business operator shall ensure that food handlers are trained and demonstrate knowledge and skills in food safety & good hygienic practices, as applicable to their assigned tasks, and have further obtained the official food safety training programs certification.*

**All food handlers should be aware of their role and responsibility in protecting food from contamination and keeping it safe. They should have the necessary knowledge them to handle food safely.**

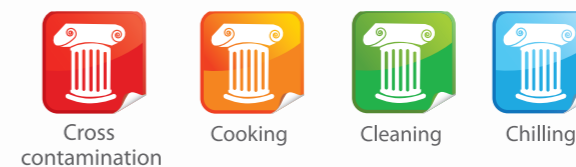
The Abu Dhabi Food Control Authority can require training of food handlers in any aspect of food safety and at a range of levels. Currently the requirement is for all food handlers to have a minimum level of food safety knowledge (see below). This will be followed by more specific training requirements, for those with greater responsibility in the business, at a later date (see Section 5.9).

#### 5.2.1 The Essential Food Safety Training Program (EFST)

The Abu Dhabi Food Control Authority (ADFCA) began a training initiative for all food handlers in 2008. This is called the Essential Food Safety Training (EFST) program and aims to provide the opportunity for all food handlers to achieve a qualification in food safety.

The (EFST) program is based on international best practice and is a mandatory training requirement for all food handlers in Abu Dhabi Emirate. This includes all persons involved in the preparation, processing, cooking, packaging, storage, transportation, distribution, selling and service of food or donating food for human consumption. This includes food business operators, managers and supervisors that have the responsibilities for ensuring that the requirements of the food law are met within the food business under their control.

Figure 23: The EFST program logo.



Cross  
contamination

Cooking

Cleaning

Chilling

The program involves food handlers attending a 6 hour training course with approved trainers. The EFST course focuses on the four essential pillars of food safety: how to avoid cross-contamination and how to cook, chill and clean safely. When the food handler completes the training an EFST Record of Attendance is issued. Food handlers complete the program when they pass a short examination at an ADFCA approved Examination Centre. They are then issued with an Essential Food Safety Training Certificate (see Figure 24).

More details can be found through communication EFST team on [efst@adfca.ae](mailto:efst@adfca.ae)

Figure 24: Examples of the EFST Record of Attendance and Training Certificate



### 5.3 Premises: location, design & facilities

#### [Article 12]

(a) The food establishment shall be located in suitable location, kept clean and maintained in good condition.

(b) The establishment shall not be located anywhere where, after considering such protective measures, it is clear that there will remain a risk to food safety or suitability. In particular, establishments should normally be located away from:

Environmentally polluted areas and industrial activities.

Areas prone to infestations of pests.

Areas where wastes, either solid or liquid, cannot be removed effectively.

#### [Article 13]

The layout, design, construction and size of food establishment shall:

1. Permit adequate maintenance, cleaning and/or disinfection.
2. Minimize air-borne contamination and provide adequate working space, freedom of movement and prevention of stacking, while considering an appropriate workflow of operations to allow for the hygienic performance.
3. Allow for protection against the accumulation of dirt, condensation, contact with toxic materials, the shedding of particles into food and the formation of undesirable mould on surfaces with risk of direct contamination with food.
4. Ensure that structures within the food establishment are built of durable materials that are easy to maintain, clean and, where necessary, disinfect.
5. Permit good food hygiene practices, including protection against cross-contamination, pest access and infestation.
6. Provide separation by partition, distance, location or other effective means, between those operations which may cause cross contamination.
7. Where necessary, provide suitable temperature and humidity controlled handling conditions of sufficient capacity.

#### [Article (14)]

Stairs, lift cages and auxiliary structures (such as platforms, ladders, chutes) should be situated and constructed to prevent contamination of food. Chutes should be constructed with cleaning hatches.

#### 5.3.1 Location of food business

Potential sources of contamination of food contamination need to be considered when deciding where to locate food businesses. In particular, businesses should normally be located away from:

- A. Environmentally polluted areas and industrial activities which pose a contamination risk.
- B. Areas prone to infestations of pests.
- C. Areas where wastes, either solid or liquid, cannot be removed effectively.
- D. Areas where there is not adequate drainage.

**Example.** A food business operator proposed to rent a shop to operate a small restaurant. However the location of the shop was found to be between two pet shops that sold live birds and other small animals. The operator was advised to find a safer location because of the unacceptable risk of cross-contamination from the animals.

#### 5.3.2 Design and layout

The internal design and layout of the business should permit safe food handling practices, including protection against cross-contamination. Examples of important points for consideration include:

- A. Physically separating areas where raw products are handled, especially meat and poultry.
- B. Wash up areas and staff amenity areas should be separated from areas where food is prepared.
- C. To facilitate cleaning, cleaning equipment should be stored close to the areas where it is used.
- D. Access to staff entrances, amenity rooms, changing rooms and personal hygiene facilities should be located so that food handlers (and visitors) do not have to cross food preparation areas.
- E. Equipments and facilities should be located where staff can readily use them.
- F. Ventilation exhaust outlets are located to minimize contamination of food handling areas.

**Example:** The owner of a building proposed to open a restaurant in an apartment basement. Refrigerators, washing facilities and toilets are two levels above the basement and there was no plumbing or drainage. The operator was advised that the premise would be inappropriate because of the lack of facilities.

#### 5.3.3 Space requirements.

It is essential to provide adequate space for the activities to be conducted in the business. It is difficult to determine space requirements at the design stage unless the business can estimate the volume of trade accurately. However, factors that could be considered in establishing whether there is sufficient space are listed below:

- A. Type of food preparation activities and items on the menu.
- B. Space to permit a work flow that will separate food handling areas to prevent cross-contamination between food handled in one area and food in another.
- C. Chilled, hot and dry goods storage space for ingredients and foods.
- D. Separate sinks for washing ready-to-eat salads and vegetables should be available.
- E. Number of employees and changing room space.
- F. Cleaning methods — to ensure that there is adequate space to maneuver cleaning equipment, to access areas for cleaning and to store chemicals.
- G. Quantity and type of garbage and recyclable material produced — to assess garbage storage area requirements.
- H. Water and water storage requirements.
- I. Sewage disposal and the need for on-site storage and/or disposal are necessary.



### 5.3.4 Construction of the building

[Article 44]

Floor surfaces shall be made of impervious, waterproof, non-absorbent, non-slip, washable and non-toxic materials, allowing adequate cleaning and surface drainage. Where appropriate, floors should slope sufficiently for liquids to drain to trapped outlets.

[Article 45]

Wall surfaces and partitions shall be made of impervious, waterproof, non-absorbent, sealed, washable, non-toxic and of light colour materials. When appropriate, walls shall have a smooth, easy to clean and disinfect surface, and be of an appropriate height.

[Article 46]

Ceilings (or, where there are no ceilings, the interior surface of the roof) and overhead fixtures shall be easy to clean, of light colour, constructed and finished to prevent the accumulation of dirt and to reduce condensation, growth of undesirable moulds and the shedding of particles.

[Article 47]

- Windows and other openings shall be constructed to prevent the accumulation of dirt. Where open windows would result in contamination, windows must be fixed or remain closed.
- Where appropriate, windows that open to the outside environment shall be fitted with easily removed and cleanable insect-proof screens.
- Internal window sills, if present, should be sloped to prevent them from being used as shelves.

[Article 48]

Angles between walls, walls and floors and between walls and ceilings should be sealed and covered to facilitate cleaning operations [Article 49]

Doors shall be made of smooth and non-absorbent surfaces, self-closing, be easy to clean, and where necessary, disinfect

Article 49]

Doors shall be made of smooth and non-absorbent surfaces, self-closing, be easy to clean, and where necessary, disinfect.

[Article 50]

(a) Working surfaces (including surfaces of equipment) in food contact areas shall be made of washable corrosion-resistant and non-toxic material and maintained in a sound condition, be durable and allow for easy cleaning and disinfection.

(b) Wood surfaces and cutting boards made from wood are not allowed.

[Article 52]

Effective measures shall be taken to prevent cross contamination to ensure separation of raw food, food in process and ready-to-eat food, including utensils and cutting boards.

Materials used to construct premises must be appropriate for food operations. They should be durable, non-absorbent and easy to clean. Light colours, if practicable, are preferred so that contamination with dirt and grease can easily be seen. In particular:

- Surfaces of walls, partitions and floors should be made of smooth, impervious materials with no toxic effect in intended use. (e.g. epoxy wall coatings, ceramic tiles)
- Floors should be constructed to allow adequate drainage and cleaning. They should have smooth, non-absorbent surfaces, and be easy to clean and, where necessary, disinfect. Suitable materials include epoxy resins and ceramic tiles.
- Ceilings and overhead fixtures should be constructed and finished to minimize the build up of dirt and condensation, and the shedding of particles. They should also be easy to clean.

- Windows should be easy to clean, be constructed to minimize the build up of dirt and where necessary, be fitted with removable and cleanable insect-proof screens. Where necessary, windows should be fixed.
- Working surfaces that come into direct contact with food should be in sound condition, durable and easy to clean, maintain and disinfect. They should be made of smooth, non-absorbent materials, and inert to the food or to detergents and disinfectants under normal operating conditions. Wood surfaces are not allowed. Suitable surfaces include stainless steel (see Section 5.3.14)

### 5.3.5 Supply of water to the building

An adequate supply of potable water with appropriate facilities for its storage, distribution and temperature control, should be available whenever necessary to ensure the safety and suitability of food (see Section 5.8).

Non-potable water (for use in, for example, fire control, steam production, refrigeration and other similar purposes where it would not contaminate food), shall have a separate system. Non-potable water systems shall be identified and shall not connect with, or allow reflux into, potable water systems.

### 5.3.6 Provision of cleaning facilities

Adequate facilities, suitably located, should be provided for cleaning food, utensils and equipment. Such facilities should have an adequate supply of hot and cold potable water where appropriate (see Chapter 3)

### 5.3.7 Provision of toilets

The food business operator must ensure that there are toilets available for the use of food handlers working for the food business. The following Table identifies some general issues to be taken into consideration.

Article (20)

Adequate, suitable and conveniently located toilets shall be provided, that are adequately ventilated and connected to an effective drainage system and do not open directly into the food handling areas. Where necessary, adequate changing facilities should be provided.

Table 3. General requirements for toilets

Factors in deciding whether facilities are adequate	Comment
Shared toilets with customers	Separate toilets for food handlers and customers are not required and 'combined' toilets are considered adequate. However, a designated 'staff' only toilet may assist a food business operator with his responsibilities to keep the toilet available at all times and clean.
Always accessible	Toilets must be accessible at all times that the business is operating. Toilets that are not on the premises must be accessible at all times when staff are working.
Clean toilets	The toilets must be clean and operating properly whether on or off premises.
Suitably located	Toilets should not be entered directly off a food preparation area but through a ventilated lobby. There must be no likelihood that droplet-borne contamination will affect the safety of food. The toilets should also be located within a reasonable distance from the food handlers work area. A reasonable distance is the maximum distance that an ordinary person would be expected to walk in the time available for breaks etc and takes into account the time needed to negotiate doors, stairs and corridors to reach the toilets. To prevent customers from contaminating food, access to customer toilets should not be through food preparation areas.
Suitable design and construction	Toilets on the premises are part of the food business and must meet all associated requirements. Toilets off-site must also meet the requirements to be considered adequate, for example they should be designed and constructed to be able to be kept clean and should be adequately lit and ventilated.
Adequately equipped	The facilities should be provided with hand basins with a supply of warm potable running water for hand washing, and suitable drying facilities.

### 5.3.8 Provision of changing facilities

Food business operators are required to provide adequate, suitable and conveniently located changing facilities in all establishments. In particular:

- A. Provisin must be made to allow food handlers to change and to store their street clothes and personal effects away from open foods. These areas should be well lit, ventilated and appropriately maintained.
- B. Adequate changing facilities should be provided.
- C. The aim of the requirement is to provide staff with space to store their belongings and avoid the storage of clothing, bags, etc. on bench tops or other places where food is stored or prepared.
- D. Outdoor clothing, soiled uniforms, handbags and other personal belongings are likely to contain foreign material such as hair, dust and dirt particles, and micro-organisms, all of which could contaminate food and equipment.
- E. Compliance with 'adequate' will depend on the nature of the business. In a small business a designated cupboard for personal items may be sufficient but a changing room with lockers or cupboards may be necessary if food handlers have to change clothes.

### 5.3.9 Provision of hand washing facilities

[Article 16]

(a) Adequate and conveniently located facilities for hand washing and drying shall be provided and, where necessary, for disinfection purposes that are designated for cleaning hands with the following conditions:

1. Facilities are provided with suitably temperature controlled, running, potable water.
2. Facilities for washing food are separate from the hand-washing facilities.
3. It is preferred that hand washing sinks are of the non-hand operable type.

[Article 54]

(a) Areas for washing food, utensils or equipment should be supplied with hot and cold potable water.

The food business operator is required to maintain adequate hand washing facilities on the food premises and:

**Ensure access:** Accessible hand washing facilities enable and encourage food handlers to use them. Basins that are located behind or obstructed by other equipment, walls, partitions or doorways are likely to be inaccessible.

The food business operator must provide hand washing facilities within areas where food handlers work and where the hands of the food handlers are likely to be a source of contamination of food. The requirement ensures that there are facilities in areas where unprotected food is handled, for example in food preparation areas. In the kitchen of a typical Food Service business a food handler should not have to travel more than 5 meters to the nearest basin.

Food handlers are required to wash their hands immediately after using the toilet to minimize the transfer of pathogens on hands to surfaces in the premises. A basin that is immediately adjacent to any toilets must be provided.

**Maintain a supply of warm running water.** Food businesses are required to maintain the supply of warm running water (usually between 23-46°C). This will encourage food handlers to wash hands -if the water available is too hot or too cold, food handlers may not wish to use the facility provided.

**Provide soap:** The food business operator may provide any type of soap. Soap helps to remove grease, dirt and bacteria from hands.

**Ensure hand washing facilities are only used for the washing of hands, arms and face.** The food business must ensure hand washing facilities are not used for other purposes. For example, hand washing facilities must not be used for food preparation, to clean equipment or for waste. This is to ensure that the facility is always available for use and does not become contaminated.

**Provide towels:** The food business must maintain a supply of single-use towels, or other means of effectively drying hands, at or near each hand washing facility. Air dryers alone are not considered to be an effective means of drying hand. A container for the used towels must be provided at or near each hand washing facility. This is to prevent the used towels contaminating the area around the hand washing facility.

### 5.3.10 Ventilation

Article (17)

Ventilation shall abide with the following conditions:

- Suitable and sufficient means of natural or mechanical ventilation shall be provided while avoiding any mechanical airflow from a contaminated area to a clean area.
- Ventilation opening should be provided with a screen or protecting enclosure of non-corrodible material with an easy access to filters and other parts that require cleaning.
- The ventilation shall be adequate to minimize air-borne contamination of food and to control ambient temperature, odors and humidity.

Ventilation provides fresh air in place of air containing unwanted fumes, smoke, steam or vapors. 'Ventilation' includes both the exhaust system to remove stale air and the system that provides the fresh air.

The food business operator may choose to ventilate the premises either naturally, by having openings such as windows and/or vents, by installing a mechanical ventilation system or by a combination of the two. The purpose of the ventilation system is to:

- A. Minimize air-borne contamination of food, for example, from aerosols and condensation droplets;
- B. Control ambient temperatures, especially important if the outside temperature rise above 25°C.
- C. Control odours which might affect the safety and quality of food.
- D. Control humidity, where necessary, to ensure the safety and quality of food.

Ventilation systems should be designed and constructed so that air does not flow from contaminated areas to clean areas and, where necessary, they can be adequately maintained and cleaned.

**Example:** A food operator found that grease was continually having to be cleaned from walls and ceilings of his business. He was advised to install an effective exhaust system.

### 5.3.11 Lighting

Article (18)

Lighting shall conform to the following conditions:

Adequate natural or artificial lighting shall be provided to enable operating in a hygienic manner. The lighting intensity should be adequate to the nature of the operation.

Lighting fixtures and electrical wires shall be protected to allow for easy cleaning and prevention of cross contamination.

Adequate natural or artificial lighting should enable food handlers to readily see whether areas and equipment are clean, to detect signs of pests and to clearly see the food and equipment they are handling. Specific tasks, such as inspecting food, taking measurements or monitoring equipment, require higher levels of lighting than general food operations.

Where necessary, lighting should not be such that the resulting colour is misleading. The intensity should be adequate to the nature of the operation. Lighting fixtures should, where appropriate, be protected to ensure that food is not contaminated by breakages.

One of the main elements in lighting is a sufficient level of luminance. Levels of illumination are measured in lux (lumens/square meter). Table 4 shows commonly used requirements in different locations.

Table 4 Minimum lighting levels

Activity	Level of Light (Lux)
Food and equipment storage areas	110-150
Dishwashing, hand washing, toilet areas	200-300
All food preparation surfaces, areas, display units	500

### 5.3.12 Drainage facilities

[Article 19]

Drainage facilities shall conform to the following conditions:

- (a) Shall be of adequate size and design and appropriately installed and maintained for the intended purposes to avoid the risk of contamination and foul odors.
- (b) Drainage channels, including any removable perforated baskets and anti-slip grating, shall be so constructed from suitable materials and be kept in such good order, repair and condition as to minimise any risk of contamination.
- (c) Where drainage channels are fully or partially open, they shall be designed so as to ensure that waste does not flow from a contaminated area towards or into a clean area, in particular an area where high risk food is handled.

Adequate drainage and waste disposal systems and facilities should be provided in all food businesses. They should be designed and constructed so that the risk of contaminating food or the potable water supply is avoided. To be effective, all sewage and waste water must be conveyed from all buildings on the site so as not to cause ponding or backflow into the building. Sewage and waste water disposed of on-site must be disposed of so as not to jeopardise food safety.

The disposal system must also be constructed so that there is no likelihood of the liquid waste polluting the water supply or contaminating food. This is intended to ensure that the standard of workmanship is such that the system is not likely to leak, block, overflow or allow access by vermin into the food premises.

### 5.3.13 Provision of suitable storage facilities

#### A. Chemical storage

There must be adequate storage facilities for items that are likely to be a source of food contamination, especially cleaning and other hazardous chemicals. Storage must be located where there is no likelihood of stored items contaminating food or food contact surfaces.

Storage outside food preparation areas is preferable. This reduces the risk that contamination from the stored items will contaminate food. However, if this is not possible the storage should be provided in a cupboard, locker or other designated area.

#### B. Food storage

Adequate facilities for the storage of food and ingredients should be provided. Food storage facilities should be designed and constructed to permit adequate maintenance and cleaning. It is important to avoid pest access and harborage, enable food to be effectively protected from contamination during storage, and where necessary, provide an environment which minimizes the deterioration of food (e.g. by temperature and humidity control).

The type of storage facilities required will depend on the nature of the food. For more details of the specific requirements for temperate controlled storage environments see Section 5.5.

#### C. Food waste storage

The storage facilities for refuse from food preparation must be collected, stored and removed from the business premise in a safe manner. The buildup of any types of waste, including recyclable matter, can attract pests and lead to the contamination of food. Facilities provided for refuse must be suitable for the volumes and types produced by the food business. These include:

- A. Outside storage areas where bins are kept.
- B. Garbage rooms.

- C. Refrigerated garbage rooms.
- D. Garbage chutes.
- E. Bins, hoppers and other storage containers whether used outside the buildings or in food handling areas.
- F. Compactor systems and the rooms in which they are housed.

### 5.3.14 Provision of equipment suitable for food use

Equipment and containers coming into contact with food should be designed and constructed to ensure that they can be effectively cleaned and disinfected. This will ensure that they are more likely to be kept clean and therefore provide fewer opportunities for contaminating food.

Surfaces should be smooth, free of cracks, chips, crevices, ridges or grooves that could harbour bacteria and impair the surfaces' ability to be easily and effectively cleaned. The surfaces must be impervious to grease, food particles and water if there is a likelihood that they will absorb material that could contaminate food they are in contact with.

Materials used for food contact surfaces must not contaminate food. Potential sources of contamination are chemicals migrating into the food from glazes on crockery, metals used to manufacture cooking equipment and some plastic wrappings. Suitable surfaces include stainless steel, ceramics and food grade plastics.

#### Examples

The following points should be taken into consideration when planning for effective cleaning:

- A. Smooth surfaces with rounded edges and no open joints, embossing or other rough surfaces or joints which can trap dirt.
- B. Nozzles or taps that are easy to dismantle.
- C. If dismantling is necessary for cleaning, it can be done without special tools, or if tools such as screwdrivers or keys are necessary they are readily available to maintenance and cleaning personnel.
- D. Readily accessible access panels in ducts.
- E. Readily removable grease filters in kitchen extraction hoods.
- F. Mounting shelves 25 mm or more from the wall or other surface they are fixed to so that food cannot lodge at the wall-shelf junction.
- G. Ensuring that equipment is butted together so close together that debris cannot fall between or leaving enough space to reach to clean the sides.
- H. Ensuring safety shields are removable.
- I. Fitting wheels or castors to equipment to enable it to be easily moved, preferably by one person.
- J. Ensuring service wires, pipes or hoses (gas, electricity, water) can be disconnected (or are flexible and long enough to enable the equipment to be moved).

**Specialist equipment** used to cook, heat treat, cool, store or freeze food should be designed to achieve the required food temperatures as rapidly as necessary in the interests of food safety and suitability, and maintain them effectively. Such equipment should also be designed to allow temperatures to be monitored and controlled. Where necessary, such equipment should have effective means of controlling and monitoring humidity, air-flow and any other characteristic likely to have a detrimental effect on the safety or suitability of food.



## 5.4 Temporary premises / mobile vehicles

[Article 105]

(a) Mobile/temporary food premises shall comply with any applicable provisions in this regulation as related to the types of activities in the specific establishment.

(b) As reasonably practicable, mobile and temporary food establishments shall:

Be located away from direct sunlight, in a manner to ensure protection of food and avoid contamination with the outside environment, if possible.

Be designed, constructed, kept clean and maintained in good condition to avoid any risk of food contamination. Exterior surfaces shall be constructed of weather-resistant material.

Equipment used in the storage and preparation of food shall be easy to clean and where necessary disinfected, sufficient in number and capacity, with sufficient space between floors and walls. All parts coming into contact with food shall be removable to enable adequate cleaning.

Floors, if not made of solid material, shall be covered with suitable stable materials to prevent exposure to dust and sand.

Provide potable water for cleaning, disinfection, and hand washing facilities. Otherwise, disposable items shall be used.

Have an adequate supply of filtered air, potable water and a safe system of waste disposal.

Where necessary, toilet facilities shall be conveniently located within the immediate vicinity.

[Article 106]

Where outdoor activities are involved, the following provisions shall apply:

Prepared foods intended for cooking must be transported in suitable temperature controlled food transport vehicles.

Mobile hand wash stations with amenities must be provided.

Water and other liquid wastes, must be drained into and stored in a separate leak proof container, where no connection to the sewage system is available.

Preparation and serving of other foods that involves slicing and assembly shall be undertaken within an enclosed, screened counter.

[Article 107]

Exemptions:

(a) Mobile /temporary food premises that sell only commercially pre-packaged foods and have demonstrated its capability of maintaining proper food temperatures, protecting foods from all possible sources of contamination and providing refuse disposal shall be exempted from providing water, plumbing and wastewater equipment. Openings (doors and windows) shall not require protection.

(b) Pushcarts shall be exempted from the additional construction criteria except for the ceiling and overhead protection requirements.

This section relates to the use of temporary or mobile vehicles for specific events. Additional controls are essential as such situations are commonly associated with outbreaks of food borne disease, especially from one-off special events such as wedding and barbecues.

To control these activities the food business must approach ADFCA for official approval (as discussed in Section 5.1). The full details of the request will be discussed with the Inspector and the minimum requirements to ensure food safety will need to be in place for an approval to be granted.

The requirements relate to:

- A. The location, design and structure of any temporary or mobile food establishments for example e.g. marquees, tents, market stalls, mobile sales.
- B. Additional requirements to ensure that the facilities are in place to ensure the special event are capable of preparing safe food.

The use of temporary premises and structures to prepare and serve food at specific events requires additional controls to ensure safety is maintained. This is because of the increased risks of contamination (from pests, people and the environment), temperature abuse (limited refrigeration space) and general problems associated with managing food production in a new environment.

The specific requirements relate to the location, design, structure, facilities (including water, waste disposal, hand wash stations) equipment (display and temperature control), transport and the number of food handlers.

Figure 25: Examples of outdoor events



## 5.5 Control of time and temperature

**Inadequate time temperature control is one of the most common causes of food borne. Controls must be in place to ensure that safe temperatures are maintained, from receipt of goods to service to customers.**

### 5.5.1 Provision of suitable facilities and equipment

[[Article 60]

Raw materials, ingredients, intermediate and finished products that are likely to support the growth of pathogenic micro-organisms or the formation of toxins, shall not be kept at temperatures that may result in a risk to health.

[Article (22) Section (a)]

(a) Equipment used to cook, heat treat, cool, store or freeze food shall be designed to achieve the required temperature as rapidly as necessary and maintain it effectively.

[Article 30]

Foods shall maintain the following temperatures:

(a) Maintaining refrigerated /chilled food below (5)°C.

(b) Maintaining frozen food at or below (-18)°C.

(c) All other foods, including shelf stable, shall be maintained at suitable temperature that prevents risk to human health, as appropriate for the particular food.

[Article (59) Section (a)]

(a) Food establishments shall have refrigerating and/or freezing cabinets large enough to accommodate raw material or food at specified temperature stated within this regulation.

[Article 32]

Provide suitable temperature-controlled handling and storage conditions of sufficient capacity for maintaining foods at appropriate temperatures and designed to allow those temperatures to be monitored and where necessary recorded, while ensuring that food is protected from direct sunlight.

[Article 23]

Equipment referred to in Article (22) above must be fitted with appropriate temperature control devices which aim to record the air temperature in the coldest part of the equipment and, where necessary, control and monitor humidity, air-flow or any other parameter that is likely to have a detrimental effect on safety and suitability of food. Temperature indicators must be clearly visible, calibrated and monitored.

The control of temperature through receipt, preparation, storage and service is one of the most important functions within any Food Service business. Consideration should be given to: the nature of the food (e.g. acidity, water content, known risks); the intended shelf life of the ingredients and prepared foods; and how it will be served to the customer (e.g. ready to eat or cooked)

The responsible person (e.g. the kitchen manager) must document all the procedures undertaken and ensure essential information is recorded. How this can be managed is described in Section 5.9, but some key general principles are found below.

### 5.5.1 Temperature maintenance and monitoring

[Article 88]

Chiller/refrigerator temperatures should be maintained at all times and sufficient precautions should be in place in case of power failure.

[Article 40]

All refrigeration spaces shall be equipped with temperature measurement devices with an accuracy of (+/- 1)°C.

[Article 41]

Food business operators shall maintain and hold records of food temperatures and maintenance and calibration records of temperature recording devices for a period of three years.

[Article 93]

(a) The temperature of display cabinets and service counters shall be monitored and records maintained, in accordance with provisions applicable to temperature control stated in this regulation.

(b) Where ice is used, adequate quantities shall be used to maintain the correct temperature.

It is important that all temperature controlled facilities or equipment should maintain the required temperatures and operate to the required levels of accuracy (see Article 40 above). The most important action is to ensure that the manufacturer's instructions are followed for the correct location, maintenance, cleaning and use – as all these factors can influence temperatures. All relevant records should be kept for a period of three years.

Scheduled preventative maintenance (following manufacturer's instructions) of equipment that has automatic temperature control facilities will normally be sufficient to ensure that temperatures are maintained. However, for equipment that has no automatic controls (such as a temperature dial or digital read-out) periodic monitoring is required to ensure safe temperatures are maintained.

### 5.5.2 Calibration and use of temperature probe

[Article 35]

Temperature recording devices shall be checked at regular intervals, test their accuracy and the tolerable limits for time and temperature variations.

The equipment used for temperature monitoring (e.g. hand held temperature probes) should also be regularly checked to ensure readings are accurate to +/- 1°C.

The manufacturer will set requirements for the frequency at which probes will need to be checked (calibrated). This will either require the probe to be returned to the manufacturer for adjustment at an accredited laboratory or replacement purchased. This is usually determined by cost – the inexpensive probes are often guaranteed for a

maximum period of normal use (e.g. one year) at which time they should be replaced.

The manufacturer's instructions on the use of the probe should also be followed. It is important to insert the probe into the correct place in the food and this varies depending on the type of food. For example, if taking a reading to check that food is properly cooked the tip should be placed in the part of the food that is the slowest to heat.

Probes should also be cleaned and disinfected before and after every use to avoid cross contamination.

Figure 26 A typical temperature probe



### 5.6 Receiving and delivering food

[Article 56]

Raw materials or ingredients (other than live animals) or any other material used in processing products shall not be accepted if they are known, or reasonably expected, to contain parasites, undesirable microorganisms, pesticides, veterinary drugs or toxic, decomposed or foreign substances to the extent that it cannot be reduced to a level acceptable for human consumption, even after hygienically applying normal sorting and/or preparatory or processing procedures.

[Article 76]

(a) Transport of food shall be carried out in such a way to prevent any contamination of the food, to maintain its integrity and at the appropriate temperatures.

(b) Food transport vehicles, including reusable containers, shall be kept clean and maintained in good repair and conditions to protect food from contamination. The interior of food transport vehicle shall be adequately insulated with a lined interior that provides a smooth, continuous, easily cleanable waterproof surface.

[Article 77]

Food items shall be physically separated from non-food items during transport, Ready-to-eat and raw foods transported in the same vehicle shall be adequately separated to avoid cross contamination.

[Article 81]

Food transport vehicles intended for transporting chilled and for frozen food should be appropriate for such purpose. Return air temperature shall be in accordance with the provisions applicable to temperature control stated within this regulation.

[Article 83]

For chilled food transport vehicles, electrical failure is permitted for a maximum period of (2) hours, provided that the return air temperature prior to and following the immediate failure is below (5)°C.

[Article 85]

Upon inspection of food consignments, the Authority shall undertake the examination of the thermograph recordings, in accordance with provisions applicable to temperature control and provisions applicable to transportation stated in this regulation.

[Article 78]

Food transport vehicles shall be capable of maintaining proper food temperatures, in accordance with the provisions applicable to temperature control stated within this regulation, and allow those temperatures to be monitored and recorded throughout the period of transport and records maintained for one year.

**Food may become contaminated, or may not reach its destination in a suitable condition for consumption, unless effective controls are taken during transport**



### 5.6.1 Receiving food from suppliers

Food arriving at the business should have been adequately protected to prevent contamination or multiplication of harmful bacteria. The supplier should have put controls in place to ensure that:

- Food is protected from potential sources of contamination.
- Food is protected from damage likely to render the food unsuitable for consumption.
- Vehicles provide an environment which effectively controls the growth of harmful bacteria.

### 5.6.2 General requirements of transport vehicles

The vehicles used to transport foods should meet the following requirements:

- Can be effectively cleaned and, where necessary, disinfected.
- Permits effective separation of different foods, or foods from non-food items, where necessary, during transport.
- Provides effective protection from contamination, including dust and fumes.
- Can effectively maintain the temperature, humidity, atmosphere and other conditions necessary to protect food from harmful or undesirable bacterial growth likely to render it unsafe.
- Allow any necessary temperature, humidity and other conditions to be checked.
- Monitoring records are available to prove that temperatures have been maintained throughout the journey.

### 5.6.3 Use and maintenance of transport vehicles

Vehicles, and equipment, used in the transport of food should be maintained in a good state of repair and working order to:

- Prevent contamination of food from flaking plaster, paint, timber, broken glass, leaking pipes, etc.
- Enable effective cleaning and, if necessary, disinfection.
- Ensure pests do not gain access to the vehicle.
- Ensure the equipment works as intended.

### 5.6.4 What and when to check

Every time food is delivered to the kitchen a number of simple checks can be undertaken to prevent the acceptance of unsafe food. The following questions should be included in the delivery checklist:

- Is food from an approved supplier?
- Is vehicle clean and well maintained?
- Is the vehicle organized to prevent cross contamination?
- Are there any visible signs of contamination?
- Is the packaging damaged?
- Is all high risk food labeled with an expiry date?
- For chilled and frozen food, is there evidence that a safe temperature has been maintained during transport?

### 5.6.5 Special requirement for high risk foods

During transport, high risk food must be maintained below 5°C or at or above 63°C. At delivery the following additional items will need to be checked.

- The temperature of the food and / or delivery vehicle.
- Signs of temperature abuse (e.g. frozen food that is 'soft').

### 5.6.6 Food deliveries

If the caterer transports ingredients or meals to other kitchens or directly to the consumer the vehicle must meet all the requirements identified above. For high risk temperature controlled food it is important to keep the delivery times short if containers are used which cannot guarantee safe temperatures. For example, insulated containers or ice packs.

#### What to do with rejected foods

Any foods that do not meet the criteria specified in the delivery checklist should be rejected. Removing rejected foods will reduce the danger of cross contamination of other food on the premises. Defective products that cannot be returned immediately to the supplier should be disposed of or correctly identified with a clear sign, such as 'DO NOT USE', and kept separate from other foods.

#### Direct purchasing from supplier

If the caterer chooses to purchase food directly from the wholesaler or retailer the vehicle should be clean and the journey time short enough to avoid loss of temperature of high risk food.

## 5.7 Purchasing and storage of food

#### Article (56)

*Raw materials or ingredients (other than live animals) or any other material used in processing products shall not be accepted if they are known, or reasonably expected, to contain parasites, undesirable microorganisms, pesticides, veterinary drugs or toxic, decomposed or foreign substances to the extent that it cannot be reduced to a level acceptable for human consumption, even after hygienically applying normal sorting and/or preparatory or processing procedures.*

### 5.7.1 Choosing a safe supplier

It is important that raw materials, ingredients or ready to eat items are not accepted into the business if they are known to be contaminated to such an extent that they cannot be made safe during the normal preparation practices followed in the business or may pose an unacceptable risk of cross contamination to ready to eat foods.

The only way to control this is to identify safe suppliers that can be relied upon to always deliver food of an acceptable standard. How the business identifies and manages a 'safe supplier' can vary, (small businesses will not be expected to follow the practice of larger companies) but be following principles that are relevant to most businesses:

- Check that the supplier's business is legitimate (e.g. do they have a license from ADFCA, fully traceable contact details, receipts and invoices?)
- Check that the supplier has the facilities to deliver food safely.
- Carry out regular spot checks on deliveries.
- Request details of the supplier's food safety management system.
- Request advice from the food Inspector if necessary.
- Develop a written agreement with suppliers (a specification) that identifies food safety requirements. For example:
  - Transport requirements such as temperature control, delivery times.
  - Metal detection, prior to delivery.
  - Product requirements (composition, expiry date etc)



### 5.7.2 Ensuring stock rotation

Article (91)

Food that has passed its marked "expiry", "use by" or "best before" date shall be removed from display, and where appropriate, disposed of.

All foods (including ingredients) have a limited time before they may be unacceptable or unsafe. This time period is labelled on all commercially available food items in one of the following formats:

- A. **Expiry date:** the date after which the food is considered unsafe or of an unacceptable quality.
- B. **Best before:** this indicates a date at which the food is of unacceptable quality.
- C. **Use by:** this indicates that food is unsafe after the date indicated.

Foods that is prepared in the business, and not served immediately, should be re-labelled and then stored under chilled conditions until required. Current best practice is to store ready-to-eat foods for a maximum of 3 days.

Considerable savings in time and money can be made if stock rotation is well managed in the business. This starts with ordering only to meet requirements and then using the first-in-first-out policy (FIFO) in all food storage areas.

It is essential that the storage instructions on any purchased ingredients or foods are followed correctly. This is particularly important for foods that require temperature control to ensure safety (see Section 5.5).

### 5.7.3 Wrapping and packaging materials

Article (71)

Materials used for wrapping and packaging shall not be hazardous or a source for contamination.

Article (72)

Wrapping materials shall be stored in such a manner that they are not exposed to a risk of contamination.

Article (73)

Packaging design and materials shall provide adequate protection for foods to minimize contamination, prevent damage, and accommodate proper labelling.

Article (75)

Wrapping and packaging material that are approved for re-use for food shall be easy to clean and, where necessary, to disinfect.

There are a number of wrapping (e.g. cling film and aluminum foil) and packaging products (sandwich cases, pizza boxes) that are often used in Food Service businesses. Any such materials that come into direct contact with food should be food grade (i.e. non-toxic and not pose a threat to the safety and suitability of food under the specified conditions of storage and use. These materials should also provide adequate protection for products to minimize contamination, prevent damage, and accommodate proper labeling.

## 5.8 Water supply

[Article 65]

An adequate supply of potable water with appropriate facilities for its storage, distribution and temperature control, shall be available at all times to all areas and equipment including ice makers and drinking water taps.

[Article (66)]

(a) Only potable water should be used in food handling operations, with the following exceptions:

1. For steam production, fire control and other similar purposes not connected with food.
  2. In certain food processes, e.g. chilling provided this does not constitute a hazard to the safety and suitability of food.
- (b) Where non-potable water is used, it must circulate in a separate duly identified system, while ensuring that it does not connect with, or allow reflux into, potable water systems.

[Article 67]

Recycled water, and water recovered from food processing by evaporation or drying, may be used provided it is of the same standard as potable water and that it does not present a risk to the safety

[Article 68]

Water and/ or Ice which comes into contact with food or which may contaminate food shall be made from potable water or, when used to chill whole fishery products, clean water. It shall be made, handled and stored under conditions that protect it from contamination.

[Article 69]

Steam used directly in contact with food shall not contain any substance that presents a hazard to health or is likely to contaminate the food.

**Water comes into direct contact with most foods at some stage in their preparation and service. It is therefore essential that it is free from contamination.**

Potable water is defined as water that is acceptable for human consumption. The water must be safe to drink and must not introduce contaminants into food or beverages, either as an ingredient or during the cooking and cooling processes.

Businesses supplied with treated water can usually assume that the supply is potable and need not take any additional precautions unless the supply authority has issued recommendations to treat the water.

Storage tanks for potable water must be adequately designed and constructed to prevent contamination. The materials used in constructing tanks, and the roofs or other surfaces that collect the water, may cause contamination.

Animals and birds may gain access to tanks if they are not covered and inlets, outlets and overflows are not screened. Measures should also be taken to keep out leaves, dust, animal and bird droppings, and insects.

Food premises must have an adequate supply of water. This means that it is available at a volume, pressure and temperature that is adequate for the purposes of cleaning, food preparation and service. Factors to be considered include the food handling operations of the business, cleaning and disinfect operations, hours of operation and requirements during peak periods.

The business is required to have water at temperatures that are appropriate for use. Businesses must also provide warm water for washing equipment. Warm water may be a mixture of hot and cold water or can be water heated to the required warm temperature.

### 5.8.1 Ice

All ice to be used in food and drink must be made from potable water. Ice used to cool open food buffet displays must also be made from potable water. (See Section 2.1)

Ice machines must be situated away from any sources of contamination and be regularly cleaned and disinfected.

Containers and utensils that come into direct contact with ice must be also be cleaned and disinfected periodically.

Utensils must be made of durable materials that will not present a foreign body hazard from brittle fracture.

Ice for drinks should not be handled with bare hands.

### 5.8.2 Steam

Potable water must be used to generate steam if it may come into contact with, or become included in the food.

Steam that is used directly in contact with food must not contain any substance that presents a hazard to health or is likely to contaminate the food.

### 5.8.3 Recycled water

- Recycled water used in processing, or as an ingredient, is not to present a risk of contamination. It is to be of the same standard as potable water, unless the competent authority is satisfied that the quality of the water cannot affect the wholesomeness of the foodstuff in its finished form.
- If a food business demonstrates that the use of non-potable water for a purpose will not adversely affect the safety of the food handled by the food business, the food business may use non-potable water for that purpose.
- None potable water can be used in the business, for example for fire control, steam production (not contacting food)), refrigeration and other similar purposes where this will not affect the safety and wholesomeness of the food. If a food business uses potable and non-potable water supplies there must be no cross connections between the two because of contamination risks. It is advisable to ensure that the systems are separate and to identify any pipes or taps that are connected to the non potable supply.

**Example:** A fast food restaurant proposed to begin serving ice with soft drink and juices. The business operator sought advice about specific safety requirements. He was informed that the ice should be made from a potable water source, should be stored in a clean container and be handled hygienically. In addition the ice containers and equipment should be cleaned and disinfected regularly to avoid cross contamination.

## 5.9 Food safety management

[Article (99)]

The food business operator is required to ensure the proper implementation of Good Hygienic Practices and ensure the effective implementation of traceability in accordance with regulation pertaining to food traceability and recall issued by the Authority.

[Article (100)]

The food business operator shall develop, implement and maintain a food safety management system based on the Hazard Analysis and Critical Control Point (HACCP) principles.

[Article (101)]

When any modification is made in the product or the process, the food business operator shall review and revise the relevant procedure accordingly.

[Article (102)]

The food business operator shall maintain records relevant to the identification of raw material and verification of the processing, production and distribution as part of its traceability system, in accordance with the regulation pertaining to food traceability and recall.

[Article (103)]

The food business operator shall:

- Provide the Authority with evidence of their compliance to food safety management systems, taking into account the nature and size of the food business.
- Ensure the continuous update of any documents describing the operational procedures.

[Article (104)]

The food business operator is required to follow the protocols and codes issued by the Authority when developing their food safety management systems.

The implementation of a HACCP-based food safety management system (FSMS) is internationally agreed as the most effective business intervention to protect the public from food borne disease. ADFCA has therefore included a requirement for such systems in all food businesses in the Emirate in Regulation 6.

A food safety management system essentially requires all food safety practices to be documented (as SOPs) with appropriate record keeping. All food handlers have to understand and follow these practices and be supervised to ensure that standards are maintained. This is how the food business operator demonstrates he is managing food safety in his business.

ADFCA has published specific Codes of Practice for Contractors, Hotels, Local Restaurant Chains, International Restaurant Chains, Schools & Hospitals, Contractors, Labour Camps, Traditional Kitchens and Small Businesses (see Section iv).

In addition, ADFCA has also produced a food safety management system for small businesses called "Salamt Zadna". All of these documents can be found on the ADFCA website and App.

Figure 27, Salamt Zadna: ADFCA Food Safety Management System (FSMS) developed for small, independent Food Service Businesses



For further information go to: [www.adfca.ae](http://www.adfca.ae)

**(v) References**

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**(vi) Appendices****Appendix 1: Example of cleaning schedule**

Cleaning Schedule			
Item	Frequency	Method	Who?
Work surface	After use	1- Remove any obvious food and dirt. 2- Wash the surface with hot soapy water (detergent diluted according to SOP). 3- Rinse with clean water to remove the detergent and loosened food and dirt. 4- Apply a disinfectant make sure you leave it on for the contact time as per manufacturers' instructions. 6- Leave to dry naturally or use a clean disposable cloth.	
Ice machine	Weekly	1- Turn off power supply, disconnect lead. 2- Wash inside ice machine with hot soapy water. 3- Rinse with clean water to remove the detergent and loosened food and dirt. 4- Apply a disinfectant make sure you leave it on for the contact time as per manufacturers' instructions (see SOP). 5- Rinse with clean water to remove the disinfectant. 7- Wash and disinfect the outside of the machine and handle. 8- Leave to dry before switching back on.	

**Appendix 2: Food Borne Disease Symptoms****What is food borne disease?**

Illness caused by the consumption of contaminated food or water is described as 'food borne disease'. These diseases usually arise from improper handling, preparation, or food storage. It is therefore preventable if the good hygiene practices described in this Code of Practice are followed.

Food borne disease can be caused by micro-organisms (e.g. bacteria and viruses) and also chemicals (e.g. pesticides). Both produce similar symptoms such as:

- A. Diarrhoea.
- B. Vomiting.
- C. Jaundice
- D. Fever.
- E. Sore throat with fever.

As described in Section 4.6 Fitness for Work, it is a legal requirement for food handlers to report symptoms of food borne disease to their manager and, if necessary, they may be excluded from work.

**What are the symptoms of food borne disease?**

The following table provides a detailed analysis of the symptoms of the major food borne diseases for reference. However, for symptoms that last more than 48 hours, it is advisable to consult a doctor for an accurate diagnosis and appropriate treatment.

Major Food Borne Diseases :predominant clinical features			
Predominant symptoms	Associated organism or toxin	Approximate time to onset of symptoms	Appropriate samples required from food handlers
Lower gastrointestinal tract symptoms (abdominal cramps, diarrhoea) occur first or predominate			
Abdominal cramps, diarrhoea, sometimes nausea and vomiting.	Clostridium perfringens, Bacillus cereus, Streptococcus faecalis, S. faecium	2–36 (mean 6–12) hours	Rectal swabs, stool
Fever, abdominal cramps, diarrhoea, vomiting, headache.	Salmonella spp, Shigella, Aeromonas, Enteropathogenic E. Coli	6–96 hours (usually 1–3 days)	Rectal swabs, stool
Abdominal cramps, diarrhoea, vomiting, fever, malaise, nausea, headache, dehydration. Sometimes bloody or mucoid diarrhoea, cutaneous lesions associated with Vibrio vulnificus.	Vibrio cholerae (O1 and non-O1), V. vulnificus, V. fluvialis, V. parahaemolyticus	6 hours to 5 days	Stool
Diarrhoea (often bloody), abdominal pain, nausea, vomiting, malaise, fever (uncommon with E. coli O157).	Enterohaemorrhagic E. coli (including E. coli O157) Campylobacter	1–10 (median 3–4) days	Stool, rectal swabs



Fever, vomiting, watery non-inflammatory diarrhoea.	Rotavirus, astrovirus, enteric adenovirus	3–5 days	Stool, vomit
Fever, diarrhoea, abdominal pain. Can mimic acute appendicitis.	Yersinia enterocolitica	3–7 days	Stool
Mucoid diarrhoea (fatty stools) abdominal pain, flatulence, weight loss.	Giardia lamblia	1–6 weeks	Stool
Abdominal pain, diarrhoea, constipation, headache, drowsiness, ulcers, variable /often asymptomatic.	Entamoeba histolytica	1 to several weeks	Stool
Nervousness, insomnia, hunger pains, anorexia, weight loss, abdominal pain, sometimes gastroenteritis.	Taenia saginata, T. solium	3–6 months	Stool, rectal swab
<b>Upper gastrointestinal tract symptoms (nausea, vomiting) occur first or predominate</b>			
Nausea, vomiting, retching, diarrhoea, abdominal pain, prostration.	Staphylococcus aureus and its enterotoxins	1–6 (mean 2–4) hours	Stool, vomit, (swabs from nostril, skin Lesions)
Vomiting, abdominal cramps, diarrhoea, nausea	Bacillus cereus	8–16 hour (2–4 hours if emesis Predominant)	Rectal swab, stool
Nausea, vomiting, diarrhoea, thirst, dilation of pupils, collapse, coma.	Mycotoxins (Amanita sp. fungi)	6–24 hours	Urine, blood (SGOT,SGPT) , vomit
Nausea, vomiting, watery non-bloody diarrhoea, dehydration	Norovirus	12–48 (median 36) hours	Stool
Sore throat and respiratory symptoms occur			
Sore throat, fever, nausea, vomiting, rhinorrhoea, sometimes a rash.	Streptococcus pyogenes	12–72 hours	Rectal swab, stool
<b>Neurological symptoms (visual disturbances, vertigo, tingling, paralysis)</b>			
Neurological and/or gastrointestinal symptoms.	Shellfish toxin (see final section of this table)	Less than 1 hour	Gastric washing
Vertigo, double or blurred vision, loss of light reflex, difficulty in swallowing, speaking and breathing, dry mouth weakness, respiratory paralysis. Characteristic syndrome is descending, bilateral flaccid paralysis, starting with cranial nerves and with preserved sensorium.	Clostridium botulinum and its neurotoxins	2 hours to 6 days, usually 12–36 hours	gastric washing Blood, stool,

<b>Allergic symptoms (facial flushing, itching)</b>			
Headache, dizziness, nausea, vomiting, peppery taste in mouth, burning of throat, facial swelling and flushing, stomach pain, itching of skin.	Histamine (scombroid)	Less than 1 hour	Vomit
Numbness around mouth, tingling sensation, flushing, dizziness, headache, nausea.	Monosodium glutamate	Less than 1 hour	Vomit
<b>Generalized infection symptoms (fever, chills, malaise, prostration, aches, swollen lymph nodes)</b>			
Gastroenteritis, fever, oedema around eyes, perspiration, muscular pain, chills, prostration, laboured breathing.	Trichinella spiralis	4–28 (mean 9) days	Serum, muscle tissue (biopsy)
Malaise, headache, fever, cough, nausea, vomiting, constipation, abdominal pain, chills, rose spots, bloody stools.	Salmonella typhi	7–28 (mean 14) days	Rectal swab, stool
Fever, headache, myalgia, rash.	Toxoplasma gondii	10–13 days	Lymph node biopsy, blood
<b>Gastrointestinal and/or neurological symptoms</b>			
Tingling, burning, numbness, drowsiness, incoherent speech, respiratory paralysis.	paralytic shellfish poisoning (PSP) mussels .clams	0.5–2 hours	gastric washing