

# Food Hygiene

## Work Manual

# UKQCS Training

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## Food Hygiene

**Work through this manual and answer the questions at the end to your team leader as soon as possible discussing any issues arising**

### **Food Poisoning:**

is an irritation of the digestive tract causing vomiting, diarrhoea or both by bacteria or chemicals.

### **Bacteria:**

are unicellular organisms which when ingested in sufficient numbers cause food poisoning symptoms. They are invisible to the naked eye and are only killed by excessive heat (in food) or sterilisation with appropriate bactericidal chemicals. Bacteria reproduce by binary fission, which means they split in half, and this can be done as often as every 10 minutes. So in as little as two hours one bacterium could become 4,096 given the right conditions for growth.

To survive bacteria need:

- food
- moisture
- time
- warmth

The one major control over bacteria is temperature.

The **DANGER ZONE** is between the temperatures 8°C and 63°C which is when bacteria are most active. Therefore controls need to be implemented to keep food stuffs out of these temperatures. Keeping food below 8°C in a refrigerator will not kill bacteria but it will stop their multiplication. Thorough cooking will kill bacteria if 75°C is reached for a few minutes.

There are four main types of bacteria which are prevalent in the UK.

- SALMONELLA
- STAPHYLOCOCCUS AUREUS
- CLOSTRIDIUM PERFRINGENS
- CAMPYLOBACTER

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Types of Bacteria			
Bacterium	Source	Symptoms	Onset Period
Salmonella	Raw meat & poultry Human & animal faeces Dairy products eggs	Fever Diarrhoea Vomiting	12-72 hours
Staphylococcus Aureus	Human skin Milk Raw meat & poultry Soil & dust	Nausea Vomiting	2-6 hours
Clostridium Perfringens	Faeces Raw meat & poultry Soil & dust	Diarrhoea Abdominal cramps Rarely vomiting	8-12 hours
Campylobacter	Faeces Animals Drinking water	Fever Acute diarrhoea Abdominal cramp	2-11 days

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### **Personal Hygiene**

As staphylococcus aureus is found naturally upon the human body it is necessary for anyone who handles food, whether it be at home or in industry to keep themselves and their uniforms scrupulously clean.

As a carer preparing food is one of your secondary tasks, so every effort must be made by you to ensure the safety of the food you may prepare for your customer. The tasks you may have undertaken prior to the preparation of the food indicates the importance of high standards of personal hygiene and the level of training you receive.

**Hair** - must be kept clean and tied up if long, hairspray must not be worn

**Nails** - must be kept clean, short and unbitten, nail varnish must not be worn

**Makeup** - must not be worn

**Jewellery** - must not be worn with the exception of a plain band wedding ring

**Hand washing** - regular thorough hand washing must take place especially after:

- visiting the toilet
- handling raw meat
- handling refuse
- smoking
- dealing with clients and before handling any food stuffs

**Cuts/Abrasions** - on exposed areas must be totally covered with a coloured waterproof dressing

**Report** - any illness especially diarrhoea and vomiting immediately to your line manager

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### Equipment

In a community care setting, as the majority of households belonging to the elderly have no mechanical means of dishwashing, great care must be taken to thoroughly cleanse all utensils and equipment. Particular care must be taken to properly clean any utensils which come into contact with raw meat, i.e. knives, chopping boards etc.

All items must be washed in hot, soapy water (above 63°C) then rinsed in clean, hot water (about 82°C). Rubber gloves must be worn at all times to protect the hands. Utensils are best left to air dry, if time is against you then a well laundered, clean tea towel may be used.

In a care home setting, a dishwasher will be in use, and must be used according to the manufacturers instructions in order to maximise cleanliness of utensils. All utensils which will fit, including cutting boards, must be put through the dishwasher which is the most effective cleaning system available in such circumstances.

Refrigerators need to be kept cold at all times with the door securely closed to prevent the temperature rising into the danger zone. Good housekeeping of refrigerators must take place including the correct storage of products, to prevent blood and juices dripping from raw products onto cooked, so contaminating them.

Correct storage is:-

- Top shelf - dairy products
- Middle shelf - high risk foods, i.e. cooked meat etc.
- Bottom shelf - raw meat

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### Temperature Control

As mentioned briefly earlier temperature is a very important weapon against the multiplication of bacteria to dangerous levels. Cooking for someone in their own home is different to catering for example in a nursing home. Regular temperature checks have to take place and documented in catering legal requirements are:

Refrigerators - 1°C to 7°C

Freezers – below -5°C

Hot cupboards above 63°C

Although this would be an impossible task in the community to document everyone's refrigerator temperature, it is worth noting that if their refrigerators and/or freezers are not working correctly then bacterial multiplication may be taking place.

In a care home setting a temperature log of each individual refrigeration and freezing machine is maintained by the person responsible for that department.

If food is being prepared for later the same day for reheating or cold consumption, then following the cooking process it must be cooled to below 7°C as quickly as possible (in the refrigerator or freezer) and certainly within ninety minutes and kept refrigerated and covered until required. If cooling a large bulk of food within a refrigerator or freezer ensure that you turn up the cooling of the appliance (turn down the temperature) to avoid the hot food raising the temperature of other food above the safe level as it is cooling.

**THOROUGH COOKING IS NOT ALWAYS ENOUGH.**

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### Cross Contamination

Cross contamination is the transfer of bacteria from one source to a high-risk foodstuff by means of a vehicle.

A vehicle in this context can mean just about anything, e.g. a knife used to cut raw meat, not being adequately washed to sterilise it and then being used to cut a gâteau; unwashed hands picking up a ham sandwich; raw meat dripping onto cooked products in a poorly arranged refrigerator; wiping of hands on clothing or a tea-towel.

**A real-life example.** A Nursing Home in North Wales was shut for many months, and three people died because:

- the chef prepared chicken
- then correctly sterilised the cutting board, knives and work area using bleach solution
- but, before completing the operation, touched the tea-towel which she had put on her shoulder
- washed her hands thoroughly
- then, prepared individual jellies in moulds
- then, stored the jellies at room temperature, “because they would be eaten in an hour or so”

At some time after correctly sterilising all the areas and utensils used to prepare the chicken, the chef must have touched the tea-towel again, transferred bacterium to her clean hands, so, Salmonella bacterium from the poultry was transferred to the jelly mix, which, at room temperature formed a superb base for the speedy reproduction of the bacterium, causing three deaths.

Generally, if you clean as you go, store products properly and think carefully about food safety and hygiene, cross contamination will not occur.

Disposable towels must be used, and used only once, and not re-usable towels



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### Chemical Poisoning

Washing up liquids, bleaches and washing powders are all readily found in the normal household and care home, and if stored near food or used incorrectly may cause severe vomiting. Rinsing is therefore a vital step in the cleaning process. The correct cleaning pattern is as follows:

<b>Pre-Clean</b>	removing debris
<b>Clean</b>	washing with detergent and very hot water
<b>Rinse</b>	removing soap with very hot water
<b>Dry</b>	preferably air-drying, if not use a clean well laundered cloth

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### Food Hygiene Questions

1. (Q) How do bacteria multiply?  
(A)
  
2. (Q) What is the danger zone?  
(A)
  
3. (Q) What is the main symptom of chemical food poisoning?  
(A)
  
4. (Q) What temperature must a refrigerator be kept at?  
(A)
  
5. (Q) Which of the following would be kept on the bottom shelf of a refrigerator; cooked ham, raw chicken or cream?  
(A)
  
6. (Q) What four items do bacteria need to survive?  
(A) (a) (b)  
(c) (d)
  
7. (Q) What is the maximum time food must be allowed to cool out of as refrigerated unit?  
(A)
  
8. (Q) Name three tasks after which you must wash your hands  
(A) (a)  
(b)  
(c)
  
9. (Q) Name the bacteria most commonly associated with eggs?  
(A)

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10. (Q) What do you think is the most common vehicle for cross contamination?  
(A)

### Using the table on page 3:

11. (Q) After a Christmas party at a local hotel 20 elderly residents complained that they had vomited some four hours later. After studying the menu the local environmental health officer decided that it was probably the trifle which was contaminated. How do you believe that he came to that conclusion?

Menu- Florida cocktail  
Roast Beef  
Fruit Trifle

- (A)
12. (Q) If you consumed some boiled ham and nine hours later you had stomach cramps and diarrhoea, which bacterium would you think was responsible?  
(A)
13. (Q) Why do you think that pets are not allowed into a food preparation room?  
(A)
14. (Q) if a client consumes an undercooked egg, what possible types of food poisoning would you expect to be caused, and what symptoms would the client be experiencing?  
(A)

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15. (Q) Forty pork pies were donated by a local bakery to an agency which is linked to the elderly. As a charitable act the agency distributed the pies around the elderly community. Some two days later 22 people who had consumed the pies reported that they had suffered vomiting and diarrhoea.

Upon investigation it was discovered that the pies lay uncovered in the agency's office for 36 hours while a decision was being made about who was to receive them.

Can you say:-

(1) which bacterium is most likely to have caused the symptoms?

(A)

(2) are there any steps the agency could have been taken to prevent the outbreak?

(A)

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### Food Hygiene

#### Answers

1. (Q) How do bacteria multiply?  
(A) *Binary fission –which means that they split in two*
  
2. (Q) What is the danger zone?  
(A) *It is between 8°C and 63°C when the bacteria are most active*
  
3. (Q) What is the main symptom of chemical food poisoning?  
(A) *Severe vomiting*
  
4. (Q) What temperature must a refrigerator be kept at?  
(A) *Below 8°C*
  
5. (Q) Which of the following would be kept on the bottom shelf of a refrigerator; cooked ham, raw chicken or cream?  
(A) *Raw chicken*
  
6. (Q) What four items do bacteria need to survive?  
(A) (a) *Moisture* (b) *Food*  
(c) *Time* (d) *Warmth*
  
7. (Q) What is the maximum time food must be allowed to cool out of as refrigerated unit?  
(A) *90 minutes*
  
8. (Q) Name three tasks after which you must wash your hands  
(A) (a) *Visiting the toilet*  
(b) *Handling raw meat*  
(c) *Handling refuse*

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9. (Q) Name the bacteria most commonly associated with eggs?  
(A) *Salmonella*
10. (Q) What do you think is the most common vehicle for cross contamination?  
(A) *Unwashed Hands*

### Using the table on page 3:

11. (Q) After a Christmas party at a local hotel 20 elderly residents complained that they had vomited some four hours later. After studying the menu the local environmental health officer decided that it was probably the trifle which was contaminated. How do you believe that he came to that conclusion?

Menu- Florida cocktail  
Roast Beef  
Fruit Trifle

(A) *The onset of symptoms within 2- 6 hours and vomiting as a symptom indicate that the bacteria concerned was staphylococcus Aureus which can be from contaminated cream not stored at the correct (low, <math>8^{\circ}\text{C}</math>) temperature*

12. (Q) If you consumed some boiled ham and nine hours later you had stomach cramps and diarrhoea, which bacterium would you think was responsible?

(A) *Clostridium Perfringens*

13. (Q) Why do you think that pets are not allowed into a food preparation room?

(A) *High risk of contamination from contact and air-borne hair and skin particles*

14. (Q) if a client consumes an undercooked egg, what possible types of food poisoning would you expect to be caused, and what symptoms would the client be experiencing?

(A) *Salmonella – fever, diarrhoea and vomiting*

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15. (Q) Forty pork pies were donated by a local bakery to an agency which is linked to the elderly. As a charitable act the agency distributed the pies around the elderly community. Some two days later 22 people who had consumed the pies reported that they had suffered vomiting and diarrhoea.

Upon investigation it was discovered that the pies lay uncovered in the agency's office for 36 hours while a decision was being made about who was to receive them.

Can you say:-

(1) which bacterium is most likely to have caused the symptoms?

(A) *Salmonella*

(2) are there any steps the agency could have been taken to prevent the outbreak?

(A) *Keep the pies covered and refrigerate – check the use-by date and date if required. Ensure that handling, storage and transportation are within the health and safety guidelines*