Cross-Contamination

These resources provide a comprehensive learning module to understand the reasons of practical food safety procedures. They are ideally suited to a wide range of learners, as they more than fulfill the requirements of Basic Food Hygiene (NVQ Level 2) and so provide the resources to meet the mandatory requirement for all FE and HE hospitality students to obtain this qualification.

Through an understanding of the scientific reasons for a food safety the student achieves the knowledge of how to manage food safety in an operational unit and also from the large company's perspective for the implementation of HACCP, making the resource suitable for HE students to enter management roles in industry.

Contents

This resource looks at how to prevent the contamination of food stuff in kitchens and food preparation areas.

Section 1. Learning Outcomes - Cross-Contamination

By the end of this section you will have learnt

1. What is cross-contamination?
2. The dangers of cross-contamination.
3. How to avoid cross-contamination.
4. The correct methods of storage.
5. What are cross-contamination vehicles?

This section will teach you about contamination, the process by which food comes into contact with another object or food so that bacteria (and other harmful material) are passed to the food. This process we term cross-contamination.

The contamination of cooked food by raw food is very serious - **it kills.**

Cross-contamination was the cause of more than twenty deaths in Scotland – the cross-contamination of cooked (ready to eat food) by raw meat.

Section 2. The Dangers of Raw Meat

Raw Meat - a raw hazard!

Raw food usually has bacteria on its surface.

This bacteria is dangerous and will cause food poisoning, yet when it is cooked the bacteria will be killed and the meat becomes safe to eat. But when food which is already cooked, comes into contact with the surface of raw food, bacteria will be passed to the cooked food. As the cooked food will not be cooked again the bacteria will then cause food poisoning. This danger also arises when food which is to be eaten raw (such as salads) comes into contact with contaminated foods.

This cross-contamination is dangerous and can kill. You must consider all opportunities of cross-contamination including the surface of food, blood and fluids, plus any utensils, table tops and even packaging material. All these can transmit deadly bacteria.

Cooked food and food eaten raw is called ***ready to eat food*** must be protected from coming into contact with raw food which may carry harmful bacteria. Otherwise deadly outbreaks will happen - people will die!

As a professional you must be alert at all times to avoid any chance of cross-contamination. Alertness avoids a catastrophe and death!

Section 3. Contamination Vehicles

Bacteria are always on the look out for a free ride!

Cross-contamination is not only between raw and cooked foods. Contamination can easily occur on many different fronts, with ordinary kitchen utensils becoming contamination vehicles carrying bacteria.

Just look at the contamination vehicle!

- Every kitchen utensil, or clothes, the walls, containers and most dangerous of all are cutting.
- Boards In the traditional kitchen with the different parties each section kept its own equipment.
- It is still wise to keep different utensils for different tasks.
- Always keep different utensils for raw meat from those used to prepare/handle ready to eat food.
- Keep pastry utensils separately, cream provides an excellent environment for bacteria therefore you must never give a chance of bacteria from raw meat being transported on a utensil to a pastry dessert.

Delivery of foods.

- Tables and the delivery areas are always an opportunity for dangerous cross-contamination.
- It is important to *check in* and store each type of food separately.
- To avoid any chance of cross-contamination different areas should be used for receiving raw meats from ready to eat foods. Frequently raw chicken and meat is leaking and the wrapping will be contaminated with bacteria, therefore **raw meat and their packaging must not come into contact with *ready to eat foods***
- A good example - some food such as raw chicken is delivered, the wrapping material is removed and then taken to another location to be discarded, but someone places cakes to defrost in contact with what that person thought was just brown paper.

  The cakes are now contaminated with salmonella and campylobacter bacteria that were on the chicken.

- Always buy your raw meat from reputable suppliers - delivered in properly sealed food packaging.
- Your delivery persons should be trained in basic food hygiene (as should anyone who enters a kitchen). This is to avoid the placing of hazardous foods in the wrong place - this training need should be a required standard for your selected suppliers Always store foods as quickly as possible.

Uniforms - protective clothing

- You must always wear a uniform when working with food.
- This uniform protects the food from bacteria.
- Bacteria are often carried on normal clothes.

As an example, shoes worn outside the workplace can easily transport harmful bacteria.

This is why it is vital that you only wear your protective clothing at the place of work and do not work in clothes you have worn outside which may have been contaminated.

Carrying garbage bags can contaminate clothes which in turn will contaminate food. Therefore you must only carry garbage at the end of your working shift, you must not return to work handling food wearing the same clothes as you were when handling garbage.

Yes, there are intermediate contamination vehicles: just as you may have to catch more than one bus to reach your destination, bacteria and bugs do the same!

Section 4. Other Contaminants

Chemicals and other hazards

Cross-contamination is due not only to bacteria but also to chemicals. These can be as simple as the chemicals frequently found in kitchens. Never use chemical sprays, cleaners or any such fluids or powders when food is out.

It is important to put the food away in its proper place, the refrigerator, or store, before cleaning occurs.

Food can be more easily contaminated than you may think.

A far too frequent example of this is food contaminated by a small piece of steel wire from the steel scouring pad used to clean a pot or container.

Therefore it is important to ensure that all pots and containers are fully rinsed in water. Or better still, after being washed clean, they are then placed in a dish washer and completely rinsed.

Section 5. Think about contamination

Planning how to avoid contamination.

When planning an activity routine or designing a kitchen, consider the flow lines - the pathways that food and goods have to travel at the various stages of production. It is important to keep these lines as separate and simple as possible.

- Food should enter at one end and the cooked food leave at another.
- Very few lines should cross.
- This will reduce the opportunity for cross- contamination during preparation.

- Keep garbage and all waste products very separate.
- Do not handle garbage if you will return to your job of handling food. The best time to handle garbage is at the end of a shift when all food has been put away and you are cleaning down.
- Dealing with garbage should be one of last tasks performed so that food will not be handled afterwards.

Section 6. Key Points

1. Cross-contamination occurs when food comes into contact with anything which may pass bacteria or other harmful items to it.
2. The most dangerous aspect of cross contamination is when raw food is in contact with cooked food, as this facilitates the transfer of dangerous/deadly bacteria.
3. Contamination vehicles include all kitchen equipment and utensils - in fact anything that comes into a kitchen can cause food contamination.
4. Food poisoning will occur when raw food comes into contact with cooked food.
5. People can carry harmful bacteria, which is why we wear protective clothing for food.
6. Never wear yesterday's uniform especially if you were wearing it while you handled garbage.

Section 7. Safe Food Handling Practices

Daily Routine

1. Always have a separate area to receive deliveries. At all costs avoid deliveries being placed on work tables used for the preparation of food.
2. Always store all food as quickly as possible after delivery.
3. Always keep raw food and cooked food separate. They should be stored in separate refrigerators.
4. A good rule is always to consider raw food to be contaminated with harmful bacteria. In most cases this will be true.
5. Only use utensils once and wash them thoroughly before using them for the next job.
6. Use different chopping boards, some of which are coloured differently for different jobs. Never use the same chopping board for raw and cooked food.
7. Always, as with other utensils, wash chopping boards thoroughly. Never turn over a chopping board because you think the other side is clean. It will be contaminated.
8. Make sure all utensils are dry. Remember bacteria like water and so can be transported in moisture.
9. Handle food as little as possible. Only the persons who need to handle and prepare the food should do so.
10. Ideally all persons who prepare food should be screened by their doctor each year to ensure that they are not carriers of harmful pathogens.
11. Never handle garbage wearing your chefs (food handling) uniform (protective clothing). Always put all food away and leave garbage tasks until the end of the shift. Ideally kitchen assistants should handle garbage and not handle food.

Credits

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