

Hazards

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

Section 1. Learning Outcomes - Hazards.....	1
Section 2. Non-Living Contaminants	1
Section 3. Living Contaminants.....	2
Section 4. High Risk Foods.....	2
Section 5. People at High Risk.....	2
Section 6. Hazards of raw meats	3
Section 7. Ready to Eat Foods.....	3
Section 8. Key Points Revision	3
Section 9. Safe Food Handling Practices	4
Credits	5

This resource provides information about the potential hazards and risks that are faced when preparing food.

Section 1. Learning Outcomes - Hazards

1. How food is contaminated by both living and non-living contaminants,
2. What are living and non-living contaminants,
3. The importance of good kitchen practices to avoid food contamination,
4. What are the most frequent causes of food poisoning,
5. What you can do to prevent food contamination before you start to work.

Section 2. Non-Living Contaminants

Non-living contaminants include glass, metal wire, stones, chemicals (cleaning etc) and parts that fall from equipment. These contaminants are avoided by proper washing and rinsing of all equipment and utensils, and by people being careful, including maintenance and repair persons who are not trained in food safety.

There are, surprisingly, many accidents caused by people eating metal wire from scrubbing pads.

One of the most dangerous is that of chemical contamination. Never store any type of chemical in a food container and always store chemicals in a separate location from food. Other items can fall from employees such as jewellery, hair and worst of all bandages - personal hygiene is vital.

Always change your clothes, have your hair tied back or covered and wash your hands before entering the kitchen.

You must be careful not to carry contaminants on your clothes and shoes.

Section 3. Living Contaminants

Bacteria are the most common cause poisoning, but they are not the only culprits.

Viruses, and moulds are dangerous causing liver damage and also the products of living hazards - toxins.

These poisons, such as those found in fish, can cause paralysis and even death! Each of these hazards will be dealt with in greater detail, but how can you reduce these risks?

By frequent hand washing, by always coming to work with a clean uniform and by gaining a thorough understanding of how to handle food safely.

Section 4. High Risk Foods

Foods that are always a hazard.

We must always consider that all raw meats are contaminated with bacteria.

This why they must always be handled carefully, to avoid any possible contact with ready to eat foods.

Meats must always be stored away from other foods preferably in a separate refrigerator and their juices must not be allowed to drop onto other foods.

There are many foods that provide the right home -environment for bacteria. These foods are usually rich in protein, such as eggs, milk, cream and indeed all dairy products.

Section 5. People at High Risk

Some special individuals will suffer more seriously from food poisoning.

For their safety the elderly, pregnant women young children and infants all require special attention when you are preparing food. Pregnant women and the developing embryo are highly susceptible to food poisoning, as they will cause serious illness or a miscarriage, to the unborn child.

A particularly pernicious bacterium is *Listeria* which can be found in some cheeses, especially those made from non-pasteurised milk, therefore such cheese must never be eaten by expectant women.

The elderly and young children (and also sick persons) do not have a fully working immune system, the body's protection mechanism to fight food poisoning, and so will suffer dangerously

from food poisoning. Therefore they can become seriously ill or even die.

You may remember the E.Coli outbreak where the elderly people died because of kidney failure.

It follows that all foods must be thoroughly cooked for this group, under cooking and cross-contamination will have dire consequences!

For those of you working in homes for the elderly and hospitals you must practice food safety rigorously, ***never ever take chances***, always discard anything you consider to be less than perfect.

Section 6. Hazards of raw meats

Importance of correct storage and handling.

Although the majority of chicken are contaminated with campylobacter bacteria and that raw meats frequently carry food poisoning pathogens, all their bacteria will be killed by proper cooking.

Their main danger is coming into contact with foods that will not be cooked anymore - ready to eat foods that will carry the bacteria to the customer.

It is therefore essential that all these foods must be handled and prepared separately otherwise cross-contamination and food poisoning will occur.

Section 7. Ready to Eat Foods

Hazards of fruit and vegetables.

When a ready to eat food is contaminated with food poisoning bacteria it is a serious hazard, as it will not be rendered safe by further cooking to kill the bacteria.

Indeed this was what happened in Scotland with the transmission of E.Coli 0157 H7 bacteria from raw meats to cooked meats. But our hazards don't end here. Foods such as cantaloupe melons were contaminated by sewage in the field, and this led to an outbreak of Salmonella in America.

Therefore as professionals we must take the right precautions at every step in both preparation and storage.

Section 8. Key Points Revision

Key Points 1

This first section is an introduction to the problems of food poisoning which can be caused by both living and non-living contaminants.

Living Contaminants;

- Bacteria
- Viruses
- Moulds
- Toxins

Key Points 2

Non-Living Contaminants;

- Stones, twigs and metal particles

- Metal parts that can fall from machinery and equipment
- Glass particles
- Chemicals (including cleaning materials)
- Food parts such as bones, shells, and pips Items falling from handlers, such as bandages, jewellery and hair

Section 9. Safe Food Handling Practices

Daily Routine.

1. You must always come to work clean with a clean uniform to protect the food from any possible contamination.
2. Always wear your hair neatly, avoid strong perfume, do not wear jewellery (apart from a simple wedding band).
3. Always cover any bandage with a waterproof protection and best of all wear disposable gloves.
4. Store chemicals away from food.
5. Ensure that you put all food away before you start cleansing with chemicals.
6. Always think of what is happening. Be careful at all times not to allow any food that may be contaminated to come into with utensils, tables, storage shelves which could cause the accidental contamination of ready-to-foods.
7. Wash your hands frequently and always clean as you go!
8. It is advisable to wear disposable gloves when handling food, remember that these should be changed frequently and whenever you start on a different job. They too can carry bacteria and cause cross-contamination.

Credits

© Oxford Brookes University 2011. oxb:200811:007PJ

This resource was produced as part of the [2012 Learning Legacies Project](#) managed by Peter Jarrett of Oxford Brookes University and was released as an Open Educational Resource. The project was funded by HEFCE and part of the JISC/HE Academy UKOER programme. Except where otherwise noted above and below, this work is released under a [Creative Commons Attribution only licence](#).



Exceptions to the Licence

The name of Oxford Brookes University and the Oxford Brookes University logo are the name and registered marks of Oxford Brookes University. To the fullest extent permitted by law Oxford Brookes University reserves all its rights in its name and marks, which may not be used except with its written permission.

The JISC logo is licensed under the terms of the Creative Commons Attribution-Non-Commercial-No Derivative Works 2.0 UK: England & Wales Licence. All reproductions must comply with the terms of that licence.

The Higher Education Academy logo and the HEA Hospitality, Leisure, Sport and Tourism Subject Centre logo are owned by the Higher Education Academy Limited and may be freely distributed and copied for educational purposes only, provided that appropriate acknowledgement is given to the Higher Education Academy as the copyright holder and original publisher.



Reusing this work

To refer to or reuse parts of this work please include the copyright notice above including the serial number. The only exception is if you intend to only reuse a part of the work with its own specific copyright notice, in which case cite that.

If you create a new piece of work based on the original (at least in part), it will help other users to find your work if you modify and reuse this serial number. When you reuse this work, edit the serial number by choosing 3 letters to start (your initials or institutional code are good examples), change the date section (between the colons) to your creation date in ddmmy format and retain the last 5 digits from the original serial number. Make the new serial number your copyright declaration or add it to an existing one, e.g. 'abc:101011:026dd'.

If you create a new piece of work or do not wish to link a new work with any existing materials contained within, a new code should be created. Choose your own 3-letter code, add the creation date and search as below on Google with a plus sign at the start, e.g. '+tom:030504'. If nothing comes back citing this code then add a new 5-letter code of your choice to the end, e.g. ':01lex', and do a final search for the whole code. If the search returns a positive result, make up a new 5-letter code and try again. Add the new code your copyright declaration or add it to an existing one.