3 Kitchens

Volunteer • Seek Employment • Become an Entrepreneur

M1.1

Introduction to Food Safety & Hygiene

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This module Food safety & Hygiene aims to inform and educate you about various food related illnesses, bacteria, viruses and how to handle with food. The aim of this module is that you will gain a good foundation when working in kitchens or in other food related workplaces.

As an example: The Swedish Food Agency estimates that approximately 500,000 people in Sweden fall ill each year from diseases caused by poor food handling.

We really don't want people who eat food we've prepared to get sick, do we?

Food safety & Hygiene

Food production with the aim that food should be safe for the consumer.

01 Various Health Hazards

02 Causes of food poisoning

03 Practical tips/routines

04 Basic prerequisites in food hygiene

05 HACCP
Hazard Analysis and Critical Control Points

06 Questions for self-reflection

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01

Various Health Hazards

Various Health Hazards

There are **four** different types of health hazards:

01

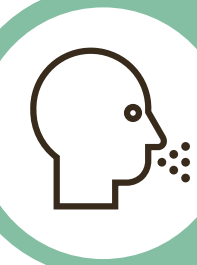
Chemical Hazards

These substances may be present in food because of various stages of its production, processing/cooking or transport. Chemical hazards might also result from environmental contamination.

02

Physical hazards

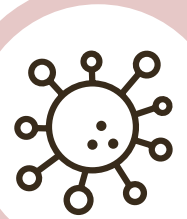
Physical hazards are foreign materials unintentionally introduced to food products or naturally occurring objects that are a hazard to the consumer.



03

Allergens

Allergens are otherwise harmless substances that can trigger an allergic reaction in sensitive individuals.

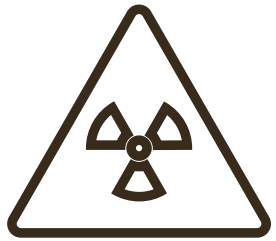


04

Microbiological food hazards

Microbiological food hazards, when food becomes contaminated by microorganisms which can be found in air, food, water, refuse, soil, animals and the human body.

01 Chemical Hazards



These substances may be present in food because of various stages of its production, processing/ cooking or transport. Chemical hazards might also result from environmental contamination.

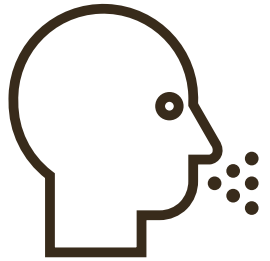
- **Natural toxins** – Examples include, poisonous mushrooms or solanine in potatoes (green potatoes that have been exposed to sunlight during cultivation and storage).
- **Environmental contaminants** – include polychlorinated biphenyls (PCBs), dioxins, and brominated flame retardant but also metals such as arsenic, cadmium, lead and mercury.
- **Process contaminants** –This can occur by heating certain materials that release toxins into the food because they are not suitable for heating, machine washing or reuse.
- **Kitchen Cleaning agents** are often strong and corrosive and should not be stored where food is stored.

02 Physical hazards

Physical hazards are foreign materials unintentionally introduced to food products or naturally occurring objects that are a hazard to the consumer.

- **Natural objects,** like bones, stones, sticks, cartilaginous parts, insects, shells etc.
- **Foreign objects** from the business, glass, plastic, metal, paper clips, pencils, Paper or components of tools, pest droppings.
- **Foreign personal objects** (perhaps from the staff), hair, nails, plasters, jewellery, cigarette butts.

03 Allergens

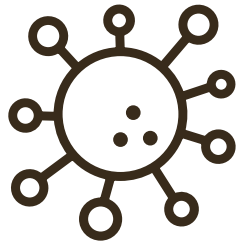


Allergens
are otherwise harmless substances that can trigger an allergic reaction in sensitive individuals.

There are 14 common allergens that under EU law, must be listed on food labels and menus. 3 common allergens are:

- Nuts and peanuts can cause anaphylactic shock, difficulty breathing, loss of consciousness, etc. Urgent care is needed.
- Gluten, for those suffering from coeliac disease, gluten damages the mucous membranes in the intestines, gluten is found in wheat, rye, barley, etc.
- Milk allergies can be serious. It is important not to confuse a milk allergy with lactose intolerance.
- **It is important to serve safe food to people with allergies**

04 Microbiological food hazards



Microbiological food hazards when food becomes contaminated by microorganisms which can be found in air, food, water, refuse, soil, animals and the human body.

- **Mould** is airborne and does not need much water for growth. A suitable temperature, improper storage or for too long will cause mould to grow.
- **Bacteri**a grow at room temperature, therefore we should refrigerate quickly. Bacteria grow fastest at 37 degrees and the risk zone is 5 to 60 degrees.
- V**iruses**, unlike bacteria, need living cells to cause disease, they are transported between food and humans.
- **Parasites** can be found in water, meat, fish, etc.
- To protect food from contamination and prevent disease-causing microorganisms from growing you must handle correctly, store correctly and in some cases cook above 72 degrees.

02

Causes of food poisoning

Causes of food poisoning

You cannot see bacteria and viruses with the eye. Therefore, it can be difficult to know if what we serve is good. This is why we have to think about how we cook and prepare the food to avoid food poisoning.

01 Lack of knowledge on the part of the staff

02 Insufficient heating/ refrigeration

03 Incorrect cooling

04 Carriers of infection in the kitchen

05 Lack of hygiene

06 Cross Contamination

07 Contaminated food use

03

Practical tips / routines

Practical tips & routines

01

Wash your hands

02

Clean the food preparation area

03

Never cook for others if you are sick

04

Separate raw meat/fish from ready-to-eat dishes

05

Store food at the right temperature

01 Wash your hands

Wash your hands with soap and water before you start handling food and after you have, for example, been to the toilet, handled rubbish, cleaned or handled different groups of foods.

02 Clean the food preparation area

Use clean utensils and handle food on clean surfaces. Common spreaders of infection in the kitchen are knives, cutting boards and dishcloths. Clean the food preparation area and knives or other utensils between each step - for example, after making the salad and before cutting the meat. (tips: use colour coded cutting boards, eg green one for vegetables and a red one for chicken).

03 Never cook for others if you are sick

A basic rule to avoid causing food poisoning is to never cook for others when you are sick.

Colds, stomach ailments, diarrhoea and other diseases can be spread through food. Even in small wounds there are often bacteria.

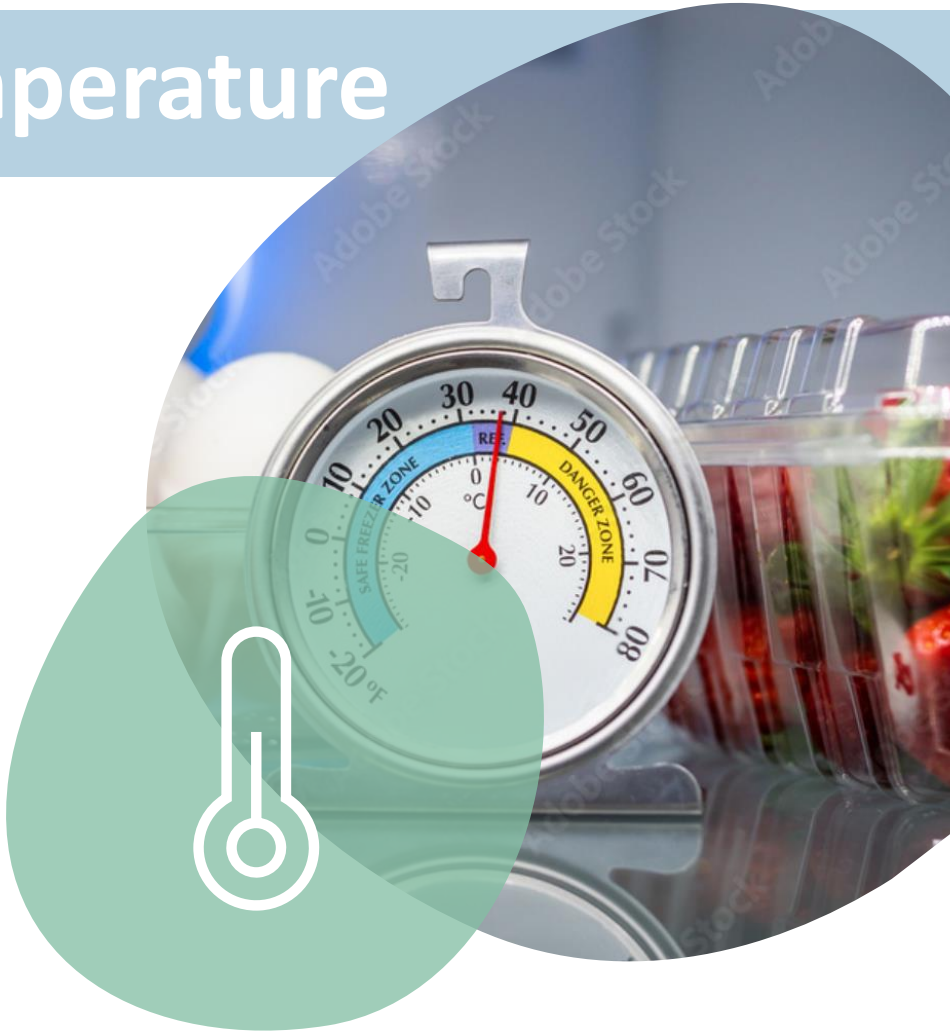
04 Separate raw meat/ fish from ready-to-eat dishes

Keep different foods apart to avoid cross-contamination. Cross-contamination means that bacteria or allergens are transferred from one food group to another.

For example, it could be bacteria from a raw chicken that ends up on a lettuce leaf. When the chicken is cooked, most bacteria die. But since salad is not normally heated before it is consumed, there is a great risk that the person who eats the salad will become ill. To avoid cross-contamination.

05 Store food at the right temperature

- Store food at the right temperature - Store raw meat, chicken and seafood separately (at the bottom of the fridge or ideally in a separate fridge) from other products. The growth of bacteria is greatly influenced by the temperature in their surroundings.
- Most bacteria thrive and grow at around 25-40°C. The food must either be kept cold or warm. Keep in mind that the durability of the products is linked to the storage temperature



04

Basic prerequisites in food hygiene

Food Safety Control

- All companies have a requirement from national authorities to implement a food safety control system, i.e. a way to prevent the consumer (guest) from becoming ill.
- These systems are usually based on routines that help you to have control over temperatures, rules, hygiene and storage.
- To ensure this, appropriate training is required. Everyone who handles food in any form must receive training from the workplace or as self-responsibility.

01 Personal hygiene

02 From grocery store to kitchen

03 Storage and product separation

04 Cleaning

05 Waste management

06 Pests

07 Maintenance of premises and equipment

01

Personal hygiene

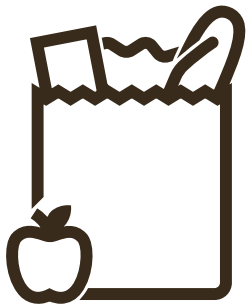
- **Personal hygiene** includes understanding Hygiene rules, having appropriate work clothes, wearing minimal jewellery, not attending work if you have an illness, etc. Hand washing should become an instinctive routine.

- Humans are carriers of many microorganisms and sometimes we also carry those that can cause food poisoning or illness. To minimise the risk, it is therefore important to keep yourself clean and healthy and to use work clothes that you change into at work.

02

From grocery store to kitchen

- **Receipt of goods:** Check that packaging is complete and clean, that the temperatures are correct, and that the transport vehicles are kept hygienically with no traces of pests? Any deviations must be reported to the supplier.



03

Storage and product separation

- **Know how to store the various food types correctly** to avoid cross contamination. In the case of dry storage, beware of contamination by personnel or pests, etc.
- Use the FIFO principle - first in, first out. This is especially important with perishable foods.
- **Remember to separate raw meats and fish** from other foods. Reseal packages and cover opened items. Avoid cartons that are dirty. Avoid floor storage.

04

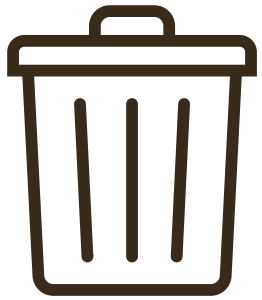
Cleaning

- Clear procedures are required.
  A programme describing what needs to be cleaned, how often and in what way is valuable.

05

Waste management

- There must be routines regarding how waste should be handled, there must be suitable containers, and they must be emptied daily. Pests are attracted to rubbish, especially food waste. Wash your hands after handling waste.



06

Pests

- It is advised to have a system in place regarding pest and insect prevention and management. It is easier to prevent pests than to eliminate of them. Pests thrive on 3 factors: food, shelter and water.

07

Maintenance of premises & equipment

- Important to be able to keep the kitchen and premises clean and that machines and coolers etc. are working correctly. Surfaces must be intact and smooth to allow for proper kitchen hygiene. Broken or damaged items are hard to clean.

05

HACCP
Hazard Analysis and Critical Control Points

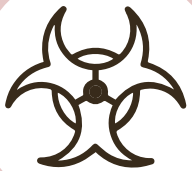
HACCP - Hazard Analysis and Critical Control Points

HACCP is a food safety management system that allows us to identify and control any hazards that could pose a danger to the preparation of safe food.

Using 7 principles, it helps us to:

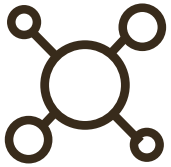
- identify what can go wrong
- plan to prevent it
- make sure you are doing it.

HACCP - Hazard Analysis and Critical Control Points



01

Perform a hazard analysis



02

Determine Critical Control Points (CCP's)

03

Set Critical Limits

04

Establish a monitoring system

05

Establish Corrective Actions

06

Establish Verification Procedures

07

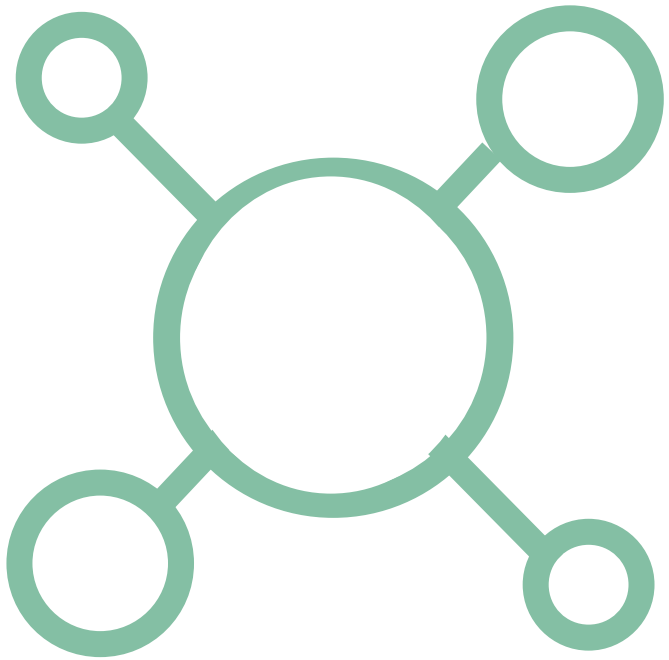
Establish record=keeping procedures

Principle 01

Identify the hazards

The application of this principle involves listing the steps in the process and identifying where significant hazards are likely to occur. (e.g., purchasing, delivery, storage, preparation, cooking, chilling, etc.) in the kitchen and identify what can go wrong.

Principle
02



Determine Critical Control Points (CCPs)

A critical control point (CCP) is a point, step or procedure at which control can be applied and a food safety hazard can be prevented, eliminated or reduced to acceptable levels.

Principle 03

Establish Critical Limits

The critical limit is usually a measure such as time, temperature, water activity, pH, weight, or some other measure that is based on scientific literature and/or regulatory standards.

Principle 04

Establish Monitoring Procedures

Monitoring procedures should describe how the measurement will be taken, when the measurement is taken, who is responsible for the measurement and how frequently the measurement is taken during production.

Principle 05

Establish Corrective Actions

This usually includes identification of the problems and the steps taken to assure that the problem will not occur again.

Principle 06

Establish Verification Procedures

This usually includes identification of the problems and the steps taken to assure that the problem will not occur again.

Principle 07

Establish Record-keeping and Documentation Procedures

A key component of the HACCP plan is recording information that can be used to prove that the food was produced safely. The records also need to include information about the HACCP plan.

06

Questions for self-reflection

Questions + statements for self-reflection

Use materials that are approved for food. Look for the glass and fork symbol.
Yes ☐ No ☐ (Chemical hazards)

Is there a difference between milk allergy and lactose intolerance?
Yes ☐ No ☐ (Allergenic health hazards)

Bacteria grow fastest at 37 degrees and the risk zone is 30 to 55 degrees.
Yes ☐ No ☐ (Bacterial growth)

Is it true that you cannot see bacteria with your own eye?
Yes ☐ No ☐ (Causes of food poisoning)

Is it ok if the temperature in the freezer is under - 18 °C?
Yes ☐ No ☐ (Basic tips, practical exercises)

Everyone who handles food in any form must receive training from the workplace
Yes ☐ No ☐ (Basic prerequisites in food hygiene)

Is HACCP, the seven principles, important for the food sector?
Yes ☐ No ☐ (HACCP, Hazard Analysis and Critical Control Points)

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Well done. You have completed Module 1.1

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