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SPHM
HOSPITALITY

SPHM – KITCHEN MANUAL

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Kitchen Manual

Section

1

SPHM HOTELS GROUP

Kitchen Hygiene Manual

Kitchen Manual

Section 1

KITCHEN MANUAL

Preferred Code of Practice for Food Hygiene

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Purposed:

Agents Hygiene Information, that managed by Sun Paradise Hotels Group

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Instruction guide for Kitchen Management

This section explains the preferred code of practice for food Hygiene. All kitchen hosts would need to briefed on the below standards which are according to the FTO standards issued in 2003.

A Clean kitchen and clean practices of food preparations saves us lost of headaches. It not only protects the guests, it also protects our hosts. More and more we are subject to kitchen inspections and the travel/tour operators are requesting that the reports are kept ready fro them to inspect. It is the responsibility of the Executive Chef, Executive Sous-Chef and Chief Steward to enforce this manual so we may present any documents requested.

The Key Guide must be understood in order to log data and provide training or must be in checklist form.

KEY GUIDE
🕮 Logbook item
☑ Check list item

1. Management

All standards in our kitchen are ultimately the responsibility of the Kitchen Management such as the Executive Chef, Executive Sous-Chef and the Chief Steward. The staffing structure should be clear and staff must be aware of their hygiene responsibilities.

☑ 1.1 Staff Structure

a) The staff structure within the catering, food and beverage should be documented. A organization chart must be in the main kitchen as well as each employee should have one copy for reference. These copies are refreshed every 3 months

☑ 1.2 Levels of Responsibility

a) There should be an outline job description for all catering, food and beverage staff. This will define good hygiene practice and

include details of responsibilities for implementing record keeping and checking records relating to food hygiene and HACCP. All staff must be aware of their food hygiene responsibilities.

🕮 1.3 Relationship with General Manager

a) The role of the General Manager in regularly confirming those food hygiene practices are in place and operational, should be documented.

☑ 1.4 Suspected Food Associated Illness

a) The resort must have a written plan of action to be followed in the event of any illnesses occurring in which there is a possibility of food involvement. The plan should include up to date contact numbers for relevant persons and should be approved by the local public health or other officials responsible for such investigations.

2 Water & Ice

All water used in food areas must meet the guideline values set by the World Health Organisation (Guidelines for drinking water quality. 2nd edition Vo1 1 1993)

🕮 2.1 Water & Ice

a) The water quality must be must be monitored and recorded and the records must be available for inspection.
b) Ice whether produced in the hotel or purchased commercially must be made from drinking water and records must be retained and available for inspection.

☑ 2.2 Water Temperature

a) In all areas of food preparation, a constant supply of hot and cold water must be available.
b) The temperature of hot water must exceed 50ºC (122ºF) at all taps and faucets.

3 Food Delivery

All deliveries must be checked for freshness, temperature, colour, odour, contamination, infestations and satisfactory packaging and labelling.

3.1 Purchase

a) All food should be purchased from suppliers in accordance with this code of practice.
b) All complaints or delivery problems must be reviewed. In the case of recurring problems it may be appropriate to secure an alternative supplier.

☑ 3.2 Reception Area

a) The delivery reception area must be kept clean, free from waste materials and any risk of infestation and contamination.
b) Food must not be left open to any risk of contamination.

☑ 3.3 Reception Procedure

a) Foods must not be accepted if there is evidence of poor quality, inappropriate odour, contamination, infestations or unsatisfactory packaging and labeling.
b) Chilled goods should not be accepted if the temperature is above 8ºC (46ºF)
c) Frozen foods should not be accepted if the temperature is above –18ºC (0ºF)
d) Deliveries of frozen or chilled goods must be placed in the appropriate storage within 15 minutes of delivery
e) Seam dented or blown canned goods must not be accepted
f) Containers used for the receipt, storage or distribution of goods must be kept clean and dry.
g) Procedures must ensure that cross contamination does not occur during the process of delivery and storage.

🕮 3.4 Records

Records must be kept to show

a) The date the product was received
b) The time the product was received
c) The temperature of the product when received
d) The condition of the product when received
e) Who the product was purchased from

4 Storage

Food stock should be kept to a minimum. The foods and/or materials must be stored to prevent deterioration, contamination or cross contamination.

☑ 4.1 Stock Rotation

a) Food stock should be stored in such a way to allow FIFO - First In, First Out.

☑ 4.2 Storage Life

a) The shelf life of all products in store must be known
b) Where available, manufacturers instructions on storage must be followed.
c) Where not available or where food has been removed from packaging, the caterer must determine the shelf life and label the product accordingly
d) Separate and identify spoiled, rejected or out of date food to prevent accidental use
e) All food in storage must be fit for human consumption

☑ 4.3 Dry Stores & Storage Rooms

Rooms and equipment for storage of dry products must be:

a) Kept clean
b) Kept free of pests
c) Kept cool and well ventilated (either natural or assisted)
d) Lit well enough to be able to see dirt or pest infestation
e) Products must be stored off the floor and should be able to be checked easily

5 Cold Storage

This includes the storage of foods at low temperatures whether in a freezer, refrigerator, cold room or cold display unit. The correct use of cold storage is essential in the prevention of food bacterial growth.

5.1 Refrigerators, Walk-in Cold Rooms, Deep Freezers & Walk-in Freezers

a) Refrigeration and freezer equipment must be designed to enable it to be easily cleaned
b) They should be serviced regularly, defrosted and maintained and in good working order.
c) Internal linings and shelves should be impervious and non-corroding.
d) The capacity must be sufficient for the business and the units must not be overfilled.
e) The lids and doors of refrigerators and freezers must be fitted with effective seals.
f) Keep raw and ready to eat foods separate, preferably in separate refrigerator or freezer units.
g) If separate units are not available:

   - Store raw and ready to eat foods on separate shelves
   - Raw food shelves must be clearly marked and always below ready to eat shelves

h) Food must be checked to ensure that the quality is maintained and that stock effectively rotated.
i) All 'out of date' foods must be discarded.
j) Food must not be stored on the floor
k) Storage containers must be kept clean and dry.
l) Doors and lids must be opened for as short a time as possible.
m) Refrigerators must be capable of maintaining food temperatures between 0°C (32°F) and 8°C (46°F).
n) Frozen products should be stored at –18ºC (0ºF) or below.
o) The food temperature must be monitored and recorded and the records must be available for inspection.

5.2 Blast Chillers & Blast Freezers

a) Equipment must be operated according to the manufacturers instructions. The recommended temperatures in the instructions should be closely followed.
b) Staff should be instructed in the proper use of the equipment.
c) Once the cooling cycle is complete the product should be maintained at an appropriate temperature.
📖 The temperatures should be monitored and recorded and the records together with the manufacturers instructions must be available for inspection

5.3 Breakdown Procedure

☑ There must be a written procedure to be implemented in the event of a breakdown or malfunction of a refrigerator or freezer; this will include the procedure for the safe storage, use or disposal of the food.

6 Thermometers & Antiseptic wipes

a) Chefs must be provided with sufficient probe thermometers and antiseptic wipes for the testing of food temperatures.
📖 All temperature measurements should be monitored and recorded and the records be available for inspection.
b) All thermometers must be calibrated using boiling water 100°C (212ºF) and a water and ice mixture 0°C (32ºF)

7 Food Preparation

During food preparation it is essential to maintain separation between raw and ready to eat foods. If possible, different work surfaces and equipment should be utilised. It is essential that work surfaces and equipment are thoroughly cleaned and disinfected after use. Cleaning is essential between use for different foods. Cleaning cloths used on work surfaces or equipment in contact with raw food must be a distinct colour and never used on ready to eat work surfaces and equipment.

7.1 Food Separation/Preparation

a) Separation of raw and ready to eat food must be maintained at all times, this may be achieved by using different designated areas or by using the same area at a different time provided there is thorough cleaning before a different food is prepared.
b) All high-risk foods during preparation must be kept free from the risk of contamination and kept at a safe temperature.

7.2 Defrosting

There must be a documented defrosting procedure, which includes:

a) Provision for the protection of food from contamination.
b) Ensuring that food or thawed liquids do not contaminate food preparation areas or other food.
c) A temperature monitoring process to ensure that the centre of the food is defrosted.
d) The temperature of the foods does not exceed 8ºC.(46ºF)
📖 The food temperature must be monitored and recorded on a regular basis and records must be available for inspection

7.3 Cooking

a) Cooking must ensure that harmful bacteria are destroyed.
b) The centre temperature of the food must exceed 75ºC (167ºF)
📖 The food temperature must be monitored and recorded and records be available for inspection.
c) Wherever possible food must be cooked and served immediately

7.4 Cooling of Food

There must be a documented cooling procedure, which includes:

a) Cooked food items not for immediate service, or to be served cold must be cooled to less than 10ºC (51ºF) within four hours and kept refrigerated.
b) Cooked food should be decanted into cold storage containers. Where appropriate bulk foods should be sliced or portioned to assist the cooling process.
c) Areas suitable for the cooling of food should be designated.

📖 The food temperature must be monitored and recorded on a regular basis and records must be available for inspection

7.5 Reheating

a) Food should be reheated so that the centre temperature of the food is at least 75ºC (167ºF) after the reheating process.
b) Food must only be reheated once and all leftover's must be discarded

📖 The food temperature must be monitored and recorded and records be available for inspection.

8 Food Holding and Display

8.1 Hot

a) Equipment used to hold and or display hot food should be capable of maintaining the food temperature at 63ºC (145ºF) or above throughout the time the food is held.
b) Food for hot serving must be kept above 63ºC (145ºF) or above and should not be kept for more than 2 hours.
📖 The time and food temperature must be monitored and recorded and records be available for inspection
c) Separate serving utensils for each food type should be provided
d) All hot food displayed must be protected from the risk of contamination by ensuring that food is kept covered or by the use of sneeze guards.

8.2 Cold

a) Equipment used to hold and or display cold food should be capable of maintaining the food temperature at 8ºC (46ºF) or below throughout the time the food is held.
b) Food for cold serving must be kept at 8ºC (46ºF) or below and should not be kept within cold display units for more than 4 hours.
c) Foods must not be subject to any form of cross contamination.
📖 The time and food temperature must be monitored and recorded and records be available for inspection
d) Separate serving utensils for each food type should be provided
e) All cold food displayed must be protected from the risk of contamination by ensuring that food is kept covered or by the use of sneeze guards

9 Pest Control / Refuse

Rodents, insects, and flies can contaminate food with harmful bacteria and must be prevented from entering food premises.

9.1 General Precautions

a) Premises and refuse areas must be kept clean and contained to prevent access by rodents.
b) Food should be stored off the floor and kept way from the walls.
c) Drains must be kept clean and in good condition. Water traps should be maintained and gullies should be fitted with metal grills
d) Buildings must be maintained in good repair.
e) Doors should be fitted with proofing strips.
f) Where electric fly killing devices are used, they must be clean, maintained in good working order and not placed above any food preparation or handling area.

9.2 Reporting

Every hotel must have a pest control programme for the buildings, grounds and food handling areas, this must include:

a) Regular surveys of food premises must be carried out to ensure that they are pest/insect free.
b) Reporting of pest damage and pest sightings.
c) Infestations must be dealt with immediately utilising a pest control expert.
📖 Records must be kept and monitored and be available for inspection.

9.3 Waste/Refuse

a) Refuse areas must be clean and in a good state of repair.
b) All waste must be stored in containers that are pest proof and protected to prevent the entry of flies.
c) The containers must be kept in a good state of repair and kept clean.
d) Food waste and refuse must not accumulate in food areas.
e) Adequate provision must be made for the removal of food waste and refuse.

10 Staff

Food handling staffs are those who are involved in the storage, preparation, processing or serving of food. Food handling staffs are one of the most important assets in the hotel; they must have adequate training and maintain the highest standards of personal hygiene.

10.1 Health Screening

Staff may bring bacteria and viruses that can cause food poisoning into the food area therefore it is essential that managers be aware of any illnesses so that appropriate actions can be taken.

📖 All food handling staff must be subject to a health screening process and records kept and monitored. This should be undertaken in consultation with a medical advisor

10.2 Illness Reporting

📖 There must be a documented illness reporting procedure for all staff. This must be clearly communicated to all personnel.

a) Staff suffering from vomiting and diarrhoea must not be permitted to work in any food handling areas.
b) Staffs who have an infected wound, skin condition or jaundice must seek medical advice prior to being to permit to enter any food handling areas.

10.3 Training

Staff will only be able to maintain high standards if they have been trained to a recognised level and at least annual refresher courses are attended.

a) All staff must receive the appropriate supervision and hygiene training to ensure they are able to comply with the hygiene requirements associated with their job. The initial training should be given on induction and subsequent training should be given at regular intervals and continue throughout their employment. The training programme should be written down and ideally be approved by an external body

📖 Written training records must be maintained and be available on request.

10.4 Facilities

The provision of good staff facilities will encourage the staff and will indicate to them the standards expected by the management. It should be remembered that it is the staff that look after the guests.

a) A designated area away from the food preparation sites must be provided for staff to change into working clothes from their outside clothes. This area must be kept clean and tidy.
b) There must be designated staff toilets, which must be kept clean.
c) Hand wash basins must be provided and supplied with hot and cold water, soap and disposable paper towels or hot air hand drying facilities at all times.
d) Toilet areas must not open directly into a room where food handling takes place.

10.5 First Aid Provisions

a) There must be a suitable and sufficient supply of first aid equipment including waterproof plasters available for the use by food handlers in an accessible location.

11 Personal Hygiene & General Staff Procedures

Food handlers must frequently wash their hands particularly between preparing raw and ready to eat foods.

11.1 Hand washing

a) Staff must be aware of the importance of regular hand washing.
b) They must have received training and regularly be encouraged to wash their hands.
a) Hand washing facilities must be available with hand basins separate from food preparation sinks
b) Hand wash basins must be provided and supplied with hot and cold water, soap and disposable paper towels or hot air hand drying facilities at all times.

11.2 Protective Clothing

a) All food handling personnel must wear clean, washable over-clothing.

11.3 Hair

a) Long hair must be tied back and a head covering should also be worn

11.4 Nails

a) Nails should be short and clean
b) Any cuts or abrasions must be covered with waterproof dressing
c) False nails must not be worn

11.5 Jewellery

a) Wrist watches, jewellery (with the exception of a wedding band) must not be worn in any food preparation area.

11.6 Smoking

a) Staff must not smoke or spit in any food preparation area.

11.7 Eating

a) Staff must not eat or drink in any food preparation area.

11.8 Minor Wounds & Abrasions

a) All cuts or abrasions must be covered with a waterproof dressing

12 Food Premises

These are all areas where food is stored, prepared or processed*. They may be part of a storage area, main kitchen complex or small units such as a poolside BBQ.*

12.1 Structure

a) Floors must be smooth, non-slip, impervious, in good state of repair and kept clean.
b) Wall finishes must be in a good state of repair and kept clean.
c) Ceilings must be in a good state of repair and kept clean.
d) Doors must be in good state of repair, ideally self-closing and kept clean.
e) Windows and ledges must be in a good state of repair and kept clean.
f) Windows that open should be fitted with fly screens and ledges should not be used as storage place. Note in new or refurbished structures consideration must be given to sloping window ledges.

12.2 Layout

a) The layout of food premises should ensure that food can be moved in a sequence from receipt, through preparation, processing, cooking and to serving in order to minimize the risk of cross contamination.

12.3 Lighting

a) Lighting must be good enough to allow safe food handling, effective cleaning and the monitoring of cleaning standards.
b) Glass lights should be protected with shatterproof diffusers or covers, in all food areas including storage areas.

12.4 Ventilation

a) Ventilation must be good enough to remove heat and cooking fumes.

12.5 Drainage

a) Drainage must be sufficient to carry away the waste and must be protected to prevent the entry of pests.
b) All drainage channels must be kept clean.

12.6 Hand Washing Facilities

a) There must be a provision made for hand washing separate from the food and equipment washing facilities. All sinks must have hot and cold running water.
b) Hand wash basins must be provided and supplied with hot and cold water, soap and disposable paper towels or hot air hand drying facilities at all times.

13 Equipment, Furnishings & Fittings

This includes all of the equipment, furnishings and fittings used in the storage, preparation or processing of food.

13.1 Equipment

a) Food equipment must be kept clean.
b) Equipment must be designed to enable easy and thorough cleaning to prevent the build up of food particles that may contain harmful bacteria or attract pests.
c) Where practical the equipment should be moveable to allow cleaning of the surface underneath.

13.2 Maintenance

a) All equipment must be maintained in good condition and full working order.
b) Maintenance and repairs should not be carried out in areas whilst food is being prepared or displayed.

13.3 Fittings

a) All fittings must be in a good state of repair and kept clean.

13.4 Work Surfaces

a) Work surfaces must be smooth, impervious, durable, and suitable for their intended use and kept clean.

14 Cleaning & Disinfection

Cleaning is the process used for removing, grease, dirt and visible soiling. Disinfection is a further stage of the cleaning process using suitable chemicals to reduce the risk of food being contaminated by harmful bacteria.

14.1 Programme

a) There must be a written cleaning programme with frequencies, specified materials to be used and any specific cleaning instructions.

14.2 Cleaning equipment and chemical stores

a) All chemicals used must be designed for use in food premises
b) Cleaning material and chemicals must be clearly labeled and stored in a separate area from food to prevent contamination
c) All cleaning equipment must be kept clean and maintained.

15 Audits

Auditing is an integral part of any hygiene programme to regularly check and record that all procedures are being carried out and that the expected results are being achieved. This not only provides a check but also gives a baseline for improvements.

15.1 In House

- There must be a regular in-house auditing scheme, at least every 3 months. A member of staff with specific training should undertake the audit. The audit should at the minimum consider all the points in this code of practice and audit results must be available for inspection.

15.2 External

- There should be arrangements for regular external audits by an independent consultant and the results should be available for inspection

15.3 Municipality Health & Hygiene Inspections

- Records relating to Municipality inspections must be available for inspection.
- There must be documented evidence that corrective action has been taken

Section

2

SPHM GROUP

Kitchen Hygiene Manual

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Section 2

KITCHEN MANUAL

Log Sheets for Section 1

Prepared by
Agustinus Agus Purwanto, SE MM

Log Sheet Nr: LOG001

Hygiene Inspection by DOO / GM

Date: _____ Time: _____

Outlet: _____ Staff involved in walkthrough: _____

LOCATION	TOPICS RAISED	WHO BY	ACTION BY	DEADLINE

Overall condition of area:

General Cleanliness:	O Excellent	O Good	O Average	O Fair	O Poor
Fridge Temperatures:	O Excellent	O Good	O Average	O Fair	O Poor
Freezer Temperature:	O Excellent	O Good	O Average	O Fair	O Poor
Floor and walls:	O Excellent	O Good	O Average	O Fair	O Poor
Ceiling:	O Excellent	O Good	O Average	O Fair	O Poor
Equipment:	O Excellent	O Good	O Average	O Fair	O Poor
Utensils	O Excellent	O Good	O Average	O Fair	O Poor
Uniform of hosts:	O Excellent	O Good	O Average	O Fair	O Poor
General Maintenance:	O Excellent	O Good	O Average	O Fair	O Poor

Points to improve / Suggestions:

_____

_____

_____

Log Sheet Nr: LOG002

Water and Ice Sample Testing

Ice and water sample is taken by engineering on a weekly basis and send to Male for chemical breakdown. The report will be sent to Engineering. The latest records are therefore available at engineering, however, a monthly update on the records are send to Chef's office for filing as well.
The samples must be taken by engineering according to the SOP and send to Male according to the criteria mentioned in the SOP.

The below record is kept as chef's office to be used for verification when the Male report comes.

Date: _____ Time: _____

Outlet: _____ Location: _____

By Who: _____

Signature Engineering_____ Signature Sous-chef / Outlet manager in charge _____

Send to Chef's office for filing within 1 hour after taking sample.

Log Sheet Nr: LOG002

Water and Ice Sample Testing

Ice and water sample is taken by engineering on a weekly basis and send to Male for chemical breakdown. The report will be sent to Engineering. The latest records are therefore available at engineering, however, a monthly update on the records are send to Chef's office for filing as well.
The samples must be taken by engineering according to the SOP and send to Male according to the criteria mentioned in the SOP.

The below record is kept as chef's office to be used for verification when the Male report comes.

Date: _____ Time: _____

Outlet: _____ Location: _____

By Who: _____

Signature Engineering_____ Signature Sous-chef / Outlet manager in charge _____

Send to Chef's office for filing within 1 hour after taking sample.

Log Sheet Nr: LOG003

Goods Delivery Record

Upon receiving the goods at the receiving area from the receiver, the assigned kitchen attendant needs to verify that the delivered goods are being received according to the standards. The log below must be completed for each individual item.

General Guidelines:

- ⇨ All goods to be received with original packing or with the by the government requested Styrofoam packing.
- ⇨ In the event of broken packing the chef or sous-chef needs to be notified to inspect the goods.
- ⇨ Chilled items should not be received if they are above 8gr C or 46gr F.
- ⇨ Frozen products should not be received if the products are above 0gr C or 18gr F
- ⇨ All chilled items and frozen items must be transferred within 15 minutes after receiving to the destination fridge or freezer
- ⇨ Ensure no cross contamination can occur during receiving
- ⇨ For further procedures, see the Receiving SOP.

Date: ______________ Time: ______________ Kitchen Attendant: ____

Product	Temperature (*)	Condition	Comments

Condition: Good =**G**, Fair = **F**, Spoiled = **S**
(*) Temperature only for chilled or frozen items

Log Sheet Nr: LOG004

Refrigerator and Freezer Temperature Log

Job description: Chief Steward
Task: Check the temperatures of all chillers and freezers twice daily
Frequency: Daily
Guideline: Chillers temperature should be between 1^{gr} C to 4^{gr} C
Freezers should be between -5^{gr} C (for short storage) and -18^{gr} C (for long storage)
Date: ____________________

Freezer / Chiller ID	Temperature	Condition	Time	Comments

Log Sheet Nr: LOG005

Product Temperature Spot Check

Job description: Sous-Chef / Outlet Chef / Chef d' Partie
Task: Spot check the temperature of three items per day that are stored in the freezer or chiller
Frequency: Daily
Guideline: Chilled products temperature should be between 1^{gr} C to 4^{gr} C
Frozen products temperature should be between -5^{gr} C (for short storage) and -18^{gr} C (for long storage)
Submit the report to chef's office within 30 minutes after testing

Product	Outlet	Fridge ID	Location	Temperature	Condition	Comments

Log Sheet Nr: LOG006

Pest Control Log Sheet

Job description: Pest Controllers
Task: Regular spraying, inspection and trap setting (if required)
Frequency: Daily
Guideline: All F & B areas needs to be pest free

Date: _____

Pest Controller: _____

Area's sprayed

Outlet	Area	Product Used	Comments

Area's inspected for pest

- ☐ Main Restaurant _____
- ☐ Main Kitchen _____
- ☐ Bakery _____
- ☐ Pastry _____
- ☐ Butchery (seafood) _____
- ☐ Butchery (meat) _____
- ☐ Bar Pool _____
- ☐ Chef's Office _____
- ☐ Hot Kitchen _____
- ☐ Store Room _____
- ☐ Back area of kitchen _____
- ☐ Stewarding Area _____
- ☐ Vegetable store room _____
- ☐ Walk-in Chiller _____
- ☐ Walk-in Freezer _____
- ☐ Wine/Beverage Store _____
- ☐ F&B Toilet _____
- ☐ Brasserie Restaurant _____
- ☐ Brasserie Kitchen _____
- ☐ Wine Cellar _____
- ☐ Brasserie Bar _____
- ☐ Main Bar _____
- ☐ Staff Bar _____
- ☐ Senior Canteen _____
- ☐ Junior Canteen _____
- ☐ ..... _____
- ☐ ..... _____

Any other comments:

_____

_____

_____

Please forward this report to chef's office after completing

Section

3

SPHM HOTELS GROUP

KITCHEN HYGIENE MANUAL

Kitchen Manual

Section 3

KITCHEN MANUAL

Mandatory Hygiene Training for all Hosts

Prepared By
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Hygiene

Training for kitchen department

(updated March 2014)

The following training booklet is for every new host joining The Sun Paradise Hotels Group and need to be completed within the probation period. Every host will be subjected to a written test a week prior to expiry of the probation period. Passing the test is required in order to pass probation.

The training is divided into three parts and is an entire self-study. Of course if you have any questions during the study period you may ask these to the assigned Chef d' Partie or Sous-Chef.

PART I

Hygiene Training

Intro

Hygiene is one of the most important matters in the kitchen. If the prepared food is good, but not prepared in a proper and clean way, the guest(s) will get sick, and will not return to the restaurant again, not even thinking about the fact that the guests(s) will complain as well. Therefore, working in a clean environment is very important, and beneficial to the end results of cooking.

To work in a clean environment is much nicer, easier and more practical. Just think about the fact that when working in a clean area, the guests and also you cannot get sick.
Food poisoning is still a very common event in hotels and restaurants, and unfortunately it happens because of dirty work place, area, personal hygiene or bad ingredients.

In this self study training we will discus several issues concerning to hygiene. It shows different food poisoning issues and gives advise how to maintain a clean and a safe working environment.

HYGIENE

Hygiea was in the Greek Mythology the Goddess of Health. The word "hygiene" is adapted from her name. Hygiene means "health knowledge".

The World Health Organization, W.H.O. defined health as follows:
"Health is the condition of completely physical, mental and social well being without illness or weakness".

Starting at the birth, one will cross the rules and regulations regarding to hygiene, to grow up in a healthy environment, and as clean as possible.

A child learns already from the first steps to wash their hands, brush their teeth, wear clean clothes, etc. etc. This is called personal hygiene.
This alone is not enough. Our living and working environment and clothes or uniform must be clean as well. To care for other people's health is also very important, especially when we are preparing the food and meals for other people. Food can be a

great place for bacteria and/or other decease causing organisms. That's why food needs to under go certain preparations prior to serving or eating. This preparation needs to be as hygienic as possible. The guests are getting more and more serious regarding to food hygiene and even travel agents can stop sending guests if they feel that the preparation of the food is not done proper.

Nowadays guests do know about hygiene and in most countries it is a part of the general education of the people. The person that is preparing the food needs to be very careful and correct. The knowledge of that person regarding hygiene is therefore extremely important. Working area, material and equipment needs to be clean to prevent infection or food poisoning.

Hygiene - Health - It is important to all of us!!!!

In this training we discus the following subjects:

- **The organisms.**

These can be divided into macro – and micro organisms. These organisms fulfill a very important role in our lives. Some of them are very useful, some of them are dangerous and harmful.

- **Personal hygiene.**

In this section we will discus which demands are there when taking care of our own body and which actions a food producer must take when getting ill.

- **Ingredient hygiene.**

Here we discuss how to handle ingredients, and also how to work hygienic with the ingredients regarding storage and packing.

- **Company hygiene.**

This also has influence on the prepared meals. If working in a dirty environment, the chance is high to get an infection or food poisoning.

1. The organisms

Organisms are organized living species. Humans and animals have organs that together form a functional body. When we

talk about organisms we generally not mean the human being, but more the animals and plants. The animals and plants are categorized by humans into harmful and useful. Every organism has as target to produce more and more of its own species.

1.1 Categories of organisms.

- Macro organisms
- Micro organisms

Macro organisms can be big, and are very clearly visible with our eyes. However that does not mean that we always see them. They can be hidden somewhere.

The different types of macro organisms are:
- Rodents (rats and mice)
- Insects
- Parasites.

Sometimes parasites are also categorized under micro organisms. Example a bacteria who stay alive while causing others damage, illness or death.

The different types of micro organisms are:
- Bacteria
- Fungi, yeast and mold
- Virus

1.2 Categories of organisms by function.

There are different classifications of micro organisms. It all depends on their function.
They are classified as below:
a- Useful micro organisms
b- Harmful micro organisms
c- Decease causing micro organisms (also called pathogens)

Without micro organisms we cannot live, but some micro organisms can cause us severe damage, illness and even in the worst case death. We have to take therefore several actions to prevent bad micro organisms from existing.

a. Useful micro organisms

Most micro organisms have a useful function. In nature they help to “eat” dead plants or animals and they clean water. Concerning to food, bacteria fulfill a very important role in the preparation of example: vinegar, yogurt and sauerkraut.
Some fungi are important with the preparation of cheese, example: blue cheese and camembert. Certain types of yeast are important for the preparation of wine, beer and bread.

b. Harmful micro organisms

Some micro organisms can harm food and make sure that the food goes bad. They can cause for example milk to get sour. Also food can get a mold by certain fungus. Most of the times this is with fruits and vegetables, but also meats can get a mold. The natural yeast in juice can start to develop if not kept at the right temperature, and so the juice will get spoiled.

c. Decease causing micro organisms

These (pathogens) can be in our food without us knowing it. Sometimes they do not cause the food to smell bad, or change color, or taste bad.

So these are very difficult to find in the food. However, they can cause illness and also severe illness and in some cases even death.

To pay a lot of attention to hygiene while working with food is therefore very important and it reduces the risk to get a micro organism development in the food.
A very pleasant environment helps micro organisms to develop, so if we make sure that we not keep a pleasant environment for them (for example by storing food cold, frozen or dry and dark) we reduce the chance that micro organisms can develop.

2. The macro organisms

At the places where humans live, also animals live because the environment is pleasant. They find in and around the houses food, warmth and a good humidity.

The macro organisms that we will discuss in this chapter are:

- Rodents (rats and mice, etc.)
- Insects (cockroaches, spiders, flies, mosquitoes, ants, etc.)
- Parasites (lint worm, haring worm or swordfish worm, etc.)

The damage they could cause are:

- Danger for the general health conditions
- Damage to buildings and houses
- Damage to ingredients
- Damage to textile, uniform or furniture
- Damage to flora and fauna (plants and gardens)

Danger for the health

Animals walk over dirt and garbage and over food, so that's how they can spread micro organisms. Rats, mice, flies, mosquitoes and cockroaches are the most common to do this. In most cases these animals are carriers of dangerous micro organisms that can cause severe illness, without causing the animal it self to get sick.

Damage to buildings and houses

Rats and mice are known to make holes in wood, and or eat electric cables. Not even talking about the drops they leave behind. Rats and mice multiply very easy, and it is difficult to catch them. If you store food proper, without being exposed to the open, you will not have any rats and mice. If there are rats and mice, than it means that the place is not kept clean, and that the general food storage is not done proper.

Damage to ingredients

So many macro organisms are causing damage to ingredients. They make damage

- by eating, so they can stay alive
- by their presence, so they create a good environment for micro organism
- by their droppings, so they make food unusable

Damage to flora and fauna

In most cases it is a big concern to farmers. They need to prevent macro organism from eating their crops. Some hotels, restaurants or chefs have their own gardens or farms, so than extra attention should be paid while growing food. Also the plants in the garden of a hotel or restaurant can be damaged by the eating rodents.

Prevention and protection against macro organism

Not so long ago, everybody thought that it was impossible to fight against macro organism but it is possible by paying more attention to constructions of the buildings and storage of food products.

Certain ways to prevent to have macro organisms are:

1) While constructing houses and work places
- close all holes, bursts and openings in the walls, doors, floors, windows and ceilings;
- place mosquito nets in front of windows if they need to be kept open;
- place also mosquito nets in front of ventilators or exhaust fans;
- pipelines and cables should be smooth and covered proper with decent protection;
- floors, ceilings and walls should be connected without bursts and or openings and should be smooth, and rounded at the corners if possible;
- use only easy to clean materials that are durable and suitable for their purpose, like tiles on wall and floor, special paint at the ceilings etc.

2) Precautions we must take our self while working with food

- storage: make good ventilation, so temperature and humidity stay low;
- clean the working area frequently and remove the garbage in airtight containers;
- check at the receiving point if the food is insect free, and store in such a matter that macro organism cannot reach them;

- remove during work and after work all food leftovers and store them in an area where no animals can reach them;
- take care of materials and equipment used during and after work, keep them clean and store them proper;
- maintain personal hygiene at all times.

2.1 Rodents

Rats and mice belong to the rodents. Because of our own lack of care and leave food leftovers all over the place, the rodents will come and eat the leftovers.
Generally rodents have very sharp teeth, and they can cause several types of damage:

- material damage (broken package or half eaten pipes and cables)
- damage to public health
- rats and mice can be infected with several diseases
- they also can transfer micro organism without them being sick
- the skin and legs are always in contact with dirt. When eating the store room supplies they can transfer easily those diseases and stored food will get infected.
- mostly they carry worms, bacteria and virus along them

2.2 Insects and spiders (and spider family)

In this section we will discuss insects and spiders and spider family species. Different types of insects are:

a. store room insects
b. flying insects
c. crawling insects

a. Store room insects

In store room products can be many different kinds of insects as they are a great environment to most of them. Some of the insects even lay eggs in the food products, like larva and then you will have soon a couple of thousand insects in your store room.
There are several insects that leave droppings behind as well. Most of the insects stay in wheat flour or other types of flour.

One also must be careful with spiders. There are very tiny spiders that can be hidden in the food, and also lay eggs. Once there are insects in the store room, and or food products, serious action needs to be taken, and food needs to be spoiled immediately. Pest control should come regular to prevent insects from getting in the store room, and they will have most likely numerous advises of how to handle the pest problem. However, be always careful when using chemicals as they also might come into the food, and that is just as dangerous as having insects.

b. Flying insects

Flies infect food with their hairy feet, which could carry bacteria, virus and dirt. Flies are the most dangerous of all, as they spread disease fast. They can transfer diseases like typhus, diarrhea, flu, and the dangerous salmonella bacteria. Wasps also come where there is food, and can carry the same diseases as flies. However, wasps them self are not very dangerous, but they could be annoying once you have been bitten.

c. Crawling insects

Cockroaches do not feel happy if they are exposed to light. They live in places where it is humid and warm and where is plenty of food. The most damage that cockroaches can cause is the transfer of disease and also the dangerous droppings. Another problem is that the skin replaces itself every few weeks, so the leftovers of the old skin can be found and is a big source for disease. Also dead cockroaches are full of diseases. Then it is extremely dangerous that the cockroaches carry in most cases the bacteria that can cause typhus.

Ants are mostly useful animals but in some cases they can transfer also micro organisms. They prefer to stay in warm buildings, and need sugar and egg whites to survive. The tropical red ant can bite and then it becomes just like mosquitoes itchy. Ants should be removed from kitchen and food preparation areas, as they might get into food or ingredients without anybody knowing it.

2.3 Parasites

Parasites are organisms that live on other living organisms, where they source there food. Sometimes parasites need two or more different organisms for their own development. A few parasites are hidden in the flesh of animals, and are not visible with the human eye. Once you get an infection of a parasite, you can get very sick. Other visible parasites are flees and lice. Also the lint worm is a very common parasite in raw meat. Therefore it is dangerous when serving meat rare or medium, that this parasite can still be alive and cause severe damage once a person is infected. The biggest source for the lint worm is the Hamburger. If not prepared properly, the guest will get the lint worm in its body as well.

There are several kinds of parasites;

- parasites that are ON the human body, like flees and lice;
- parasites that are IN the human body, like the lint worm and haring worm.

Parasites that are ON the human body.

Lice and flees are not a matter of discussion in this chapter, as they do not carry any disease, however, they are a sign of bad hygiene. If a person have lice or flees, than proper cleaning needs to be done, the body as well as the living and working environment needs to be cleaned up. Normally they can only be killed with chemicals but one should be careful, as the chemicals could also harm the human body.

Parasites that are IN the human body.

Trichinae are a parasite that comes in pork and boar. This parasite can cause, even up to several weeks after infection, pain in muscles, throwing up and dizziness.
The trichinae will grow till they become worms in your body once infected, and can stay for several weeks in your body

without you knowing it. They also multiply themselves by laying eggs in your intestines. From there they will come in your blood and then go to the muscles which can cause pain, and in some cases you can get paralyzed. When heating the meat of pork above 65 gr. C, you kill the trichinae.

Lint worm can access the human body while eating raw, or undercooked meat. The meat must contain the larva that causes the lint worm. Mostly you find it in raw beef and pork. The lint worm exists out of small pieces, that will grow together as one worm. The small parts of the worm, contains many eggs, and once infected the worm will multiply itself fast in your body. The worm comes into the bodies of animals and humans because of bad hygiene, Mostly caused by human or animal droppings. Also it can be in fish, however, this is another kind, and more seldom than the one in meats. Generally by not washing the hands proper after use of the toilets, is a direct danger to get the infection. One of the symptoms of infection is extreme hunger for food, and extreme consumption without getting fat. Eventually infected people will get skinny, and will fall ill. One way to prevent infection is proper washing of the hands after using the toilet, and also limit the usage of river products (fish, crabs etc.) and heat up the meat more than 65 gr. C. Another form of parasite is the toxoplasmose, which is the most dangerous of all and can cause brain damage and eye damage. Also when pregnant the baby could get infected and can born to fast or to slow, not mentioning the brain and eye damage. This parasite comes also in raw meat. By heating the meat more than 65 gr. C you kill this parasite.

PREVENTION OF MACRO ORGANISMS

Before finding methods to kill macro organisms, we first must determine which ways can be most effective. We have to learn the biology of those animals.

1. rodents can be prevented by making sure that there are no places for them to feed and to shelter. During the construction of the kitchen, we must pay attention to that. Also during the day to day operations, we must store products proper without creating shelter places for the rodents.

2. A way to prevent flying insects is the electric blue light. This is a machine that gives a blue light which attracts flies and mosquitoes and once they come near the light, they get electrocuted by a metal network casing that has a high

voltage (but not high enough to damage humans) that kills the flying insects. However,

this way you can only prevent a small part of the entire problem, as this method is not the most effective way.

Till now there is no better solution for the flying insects, but a good air circulation preferable cold air could help reducing the insects, as well as fans and or proper exhaust systems. Of course mosquito nets should be at any window and exhaust fan.
When installing a machine like the blue light, think about the fact to hang it somewhere at a non-circulated air area, so not in front of a fan or exhaust, and remove the dead insects frequently that have fallen into a metal box under the electric casing. The blue light is best active in dark, so keep the machine running at night as well.
The advantage of this machine is

- no use of chemicals
- no unpleasant odors
- hardly any maintenance

3 To maintain general hygiene in the kitchen and storage area is a key player in the prevention of insects or rodents.

4 Use proper chemicals to kill insects and rodents, frequently and effectively.

END PART I

Refer to your assigned supervisor to discuss any questions you may have before continuing to the next section. Only once you understand all the contents, move on to the next section.

Hygiene

Training for kitchen department

(Updated March 2014)

PART II

3. The micro organisms

In 1673, the microscope was invented by a Dutch professor. When he was looking through his own build microscope, he found out that there are living micro organisms in a drop of water. Micro organisms are very small, living creatures, which we cannot see with our eyes.

We need a microscope to see them. Micro organisms exist out of one ore more cells that are connected to each other. In nature, the micro organisms are very important for the break down of organic material.

The micro organisms are separated into two groups:
- plants;
- animals.

Micro organisms can be or useful, or dangerous for the humans.

The different types of micro organisms are:
- mold
- yeast
- bacteria
- viruses

For all of these micro organisms there is a key factor that if they want to exist, then there must be certain environmental conditions. These conditions are:

- enough food;
- enough water / humidity;
- certain temperature;
- certain acid levels;
- time;
- oxygen (or no oxygen);
- the presence of other micro organisms.

Food

Micro organisms need certain food in order to live and to multiply themselves. These are water, egg white, sugar, minerals and vitamins. Especially meat, poultry, fish and milk are an excellent source for micro organisms. Also in vegetables, fruits, salads, pastries and desserts they feel comfortable, even when packed vacuum. If we add at food ingredients large amount of sugar or salt, the grow and life of bacteria will be stopped, or will continue, but very slow. The process of developing will be delayed. That's why there are no bacteria in sweet, sour or salty foods like jam, syrup, vinegar, pickles or dried and salted meat or fish. They also do not grow in dry goods as grains, flour, herbs and milk powder. However, if dried products will get wet, than the bacteria can develop themselves and multiply very fast. Mold and yeast are the first micro organisms that will develop.

Humidity / water

Just like humans, micro organisms need water. A humid environment helps them to grow and multiply. Without water micro organisms cannot exist and they will die if a product becomes dry.

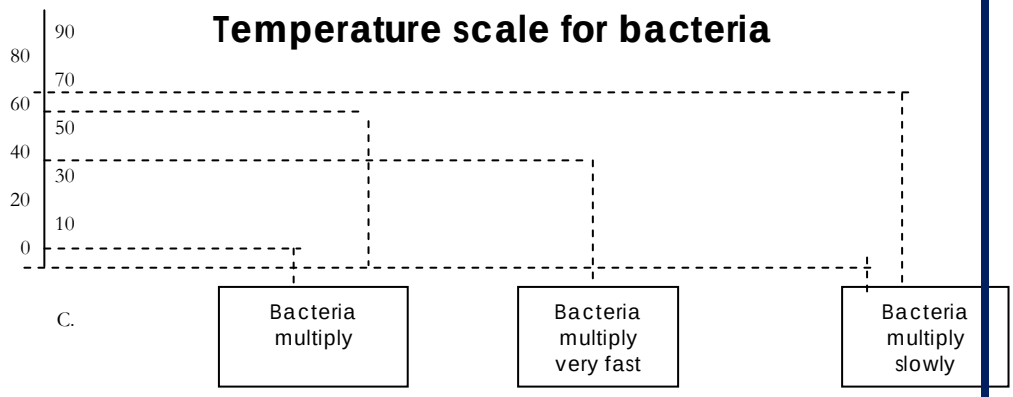
Temperature

Micro organisms live within a certain temperature range. Every micro organism has a minimum and maximum tolerance of temperature, and a temperature where they feel very

comfortable and multiply very fast. Most disease causing micro organisms need at least a minimum temperature of 10 gr. C, and a maximum temperature of 50 gr. C, and they feel best and perform optimal at a temperature of 30 gr. C to 37 gr. C. There are small variations of bacteria that prefers temperatures that are around 5 gr. C to 10 gr. C, or prefer 55 gr.

C to 65 gr. C. At low temperatures (7 gr. C) like in a refrigerator the grow of bacteria will go very slow. In frozen condition (-20 gr. C) they do not grow at all, but some bacteria do not die at this temperature, so one should be very careful when defrosting food products, they still contain bacteria, and they will develop as soon as the temperature is better (10 gr. C to 50 gr. C) Most bacteria die if the temperature will go higher than 65 gr. C.

So, most cooking methods kill the bacteria by temperature. It is therefore advisable to keep the food stored at temperatures above 55 gr. C or below 7 gr. C.



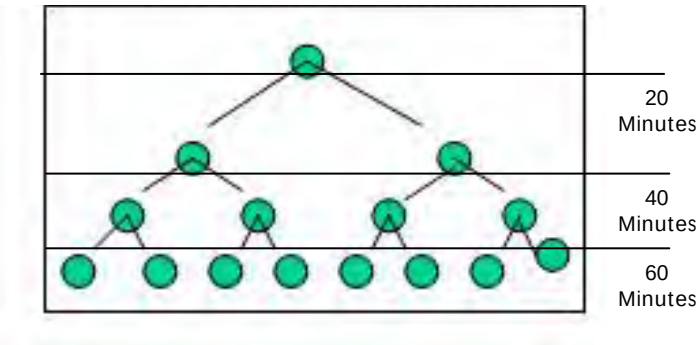
Note: Bacteria do not multiply when frozen, but also do not die.

Time

Micro organisms need time to multiply themselves. At the temperature of 30 to 37 gr. C , the growth is at its best. To multiply them selves they need for each time only 20 minutes, which in case of one bacteria, you will have 16,000,000 bacteria after 8 hours. This amount is more than sufficient to make people ill. If the temperature is lower for example 7 gr. C, than it takes only one hour to multiply. So after 8 hours

There will only be 256 bacteria. That is the difference when keeping food cold or warm. Keep therefore always your products cold!!!

A bacteria multiply itself by splitting itself into two cells. (in 20 minutes)



Multiply by Cell Splitting

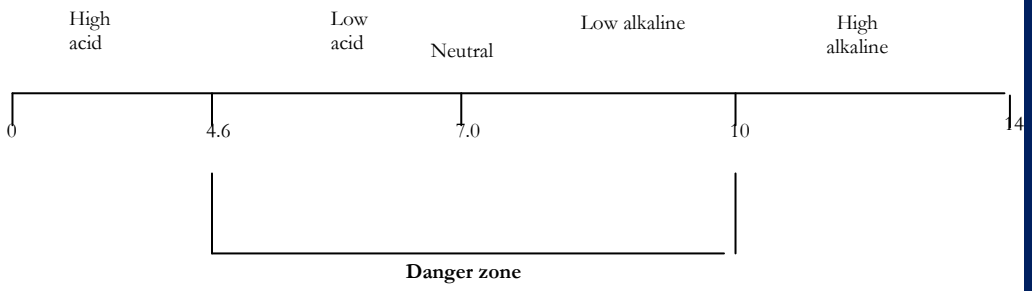
Acid levels (pH)

The scale of acid level is worldwide acknowledged in pH. A neutral product has a pH level of 7. This means it is not sour, and not bitter. If a product is sour, the level will be below 7, like 5 (medium sour). The best level micro organisms can grow is between 6-8 gr. pH.

If products go below 6, it will stop the grow. If products go below 5 (like pickles) , they will die. However, as in most cases there are exceptions. Certain bacteria prefer a very sour environment, like the vinegar bacteria or milk and yogurt bacteria. These are actually beneficial to the humans, as we love vinegar and cheese. Also above the 7 pH level, there are lots of bacteria that love to stay in that environment. Every level that is higher than 7 pH, is called “alkaline” and is very bitter.

The higher the level, the more bitter it becomes. Especially in eggs, shellfish and in olives are bacteria that can resist the higher pH level. These bacteria are in most cases dangerous to the humans, like the salmonella bacteria, which can even kill humans in bad situations.
Yeast and mold can live easily in products that have a high or low pH level. (cheese for example).

pH scale, from 0 to 14



pH scale, from 0 to 14

Oxygen

We can divide micro organisms into several levels regarding to oxygen.

- aerobe micro organisms. These need oxygen to grow. Most molds and yeast belong to this family.
- anaerobe micro organisms. These can grow WITHOUT oxygen. These bacteria are dangerous to us humans.
- facultative micro organisms. These can live with or without oxygen. Mostly these are the yeast and bacteria. So, that's why bacteria can still grow into vacuum packed products.

There are also micro organisms that need other micro organisms to multiply or simply to exist. However, as this is a more scientific subject, we will not discuss this group of micro organisms in this training.

3.1 Mold and fungus

Mold and fungus are very frequent the cause of food spoilage. They can grow on almost all food products. They exist out of more than one cell, which look like a "hairy" web on the surface of the product. Mold and fungus can also go inside the

food products. If there is any mold or fungus on the food product, that means that it is only a small part of the mold. Most of it is not visible with the human eye. They can be of different colors; blue, green, white, pink or even black. Most of the mold and fungus are hidden in the food, and are not visible, but they can be tasted. It is therefore useless to cut of the part where the mold or fungus is, as the "roots" are already in the food product. Best thing is to spoil the entire food product to make sure nothing stays behind to "infect" other products. Mold and fungus multiply themselves with very small cells, that can easily be picked up by the wind and go to other places in the food preparation areas. These tiny little cells or trails also called, are not visible and extremely easy to be spread out around a very wide range.

A not so pleasant part of fungus and mold is the forming of a very poison waste, which can cause severe illness for humans and animals. This is not known by most people.
This poison can be (but not always) in the food products that contains mold or fungus. This is one more reason to spoil products that contains mold or fungus, rather than cutting of the piece that is infected.

Mold and fungus dies at a temperature of 100 gr. C, but their poison not!!! So, there is no solution to "kill" this poison. Once the poison gets into the body, it can cause serious illness and hospitalization is necessary.

Useful mold and fungus

The most famous one is the penicillum glaucum (Latin). This one produces as a waste the Penicillin which is used as treatment for many bacteria caused diseases.
With the preparation of cheese like brie, camembert and blue cheese the mold is a key player. It gives a very pleasant flavor to those cheeses.

A very well-known fungus is the mushroom, which is in the nature a very good utility to breakdown "wastes". Most mushrooms are edible, but there are certain types which are very poison and some even deadly. Make sure when buying mushrooms, the supplier has proper knowledge and that you can trust that supplier. It is not recommended to buy mushrooms from people that gather the mushrooms themselves from the forest.

Harmful mold and fungus

Harmful mold is the ones that comes on bread. These ones contains the previous described poison. Also there is a mold that comes in peanuts (non-visible) and is deadly to humans and animals. This mold is called "aflatoxine" The problem with these molds and fungus is so big, that it killed the entire French wine yards in 1890, and all wine plants (stems) needed to be replaced by American plants (stems) which seemed to be resistant of the mold and the French stems where integrated on those American stems. Also in England there has been a huge poisoning caused by peanuts that was blend into the feed for chickens, which killed most of the chickens in 1960, and caused many people severe illness.

We need to take care of our products in the kitchen, and pay a lot of attention to the prevention of mold and fungus. Also never use raw almonds, or other nuts, as they contain a certain poison which can make people very sick.

3.2 Yeast

Yeast are one cell organisms that are slightly larger than a bacteria, but still not visible with the human eye in smaller quantities. Yeast is available for bread products to let it rise.

Yeast multiply a little different than splitting in two, but the general idea is the same. They form a second cell within their own cell, and after they will let it go, and it becomes two cells. Yeast changes sugar into alcohol and oxygen. They do this when the environment has a pH level between 6 to 8 and a temperature between 25 to 30 gr. C. At lower temperatures they still grow, but more slow. At high temperatures yeast will die, same as a high alcohol level (15%) or when the sugar is finished. You can discover yeast when a product (mostly fluid) starts to "bubble". Also when smelling alcohol is a sign that there is yeast in a product.

Yeast can be very useful, like the types listed below
- Alcohol yeast
- Wine yeast
- Beer yeast
- Bread yeast

The different types of yeast are very similar to each other, and they work all the same.

They feed themselves with sugar, and produce alcohol and oxygen.

2.4 Bacteria

The most common food poisoning is caused by bacteria. There are thousands different kinds of bacteria. They have only one cell, and are not visible with the human eye. Bacteria are everywhere, in and on our body, in the air, in the water, in the kitchen and in our food. Most of them are not dangerous and can even be useful for certain preparations of food. However, there are also bacteria that can cause sickness. These bacteria cause in almost every case severe food poisoning or infection in the human body (can be internal as well as external). In some cases people can die from this. Bacteria can very easily multiply themselves and also very fast.

Bacteria can be divided into several groups;
- spore forming bacteria
- non-spore forming bacteria
- bacteria that does not produce any toxin waste
- bacteria that does produce toxin waste
- useful bacteria
- bacteria that causes food spoilage
- bacteria that causes sickness or illness

Spore forming bacteria

Certain bacteria form in bad environmental conditions spores, that is like a camouflage of the bacteria. It protects itself against dying. It transforms its "body" into a endospore and in that way they can resist heat, cold, sour or sweet. Even against chemicals and dry environments. These group of bacteria are the most dangerous to humans, as we cannot kill them. Once they are in spore form, they do not multiply, but once the conditions becomes better, they transform again from the spore into the bacteria and continue their damage. So, sometimes by cleaning with heavy chemicals, or by heating food up to even more than 100 gr. C, or by freezing food below 20 gr. C, we still cannot kill them.

Bacteria that produces toxin waste

Some bacteria produce during multiplying themselves a dangerous toxin (poison). This toxin is also in the food where the

bacteria is. The toxin cannot be destroyed by any cooking method. The toxin is in most cases very neutral in flavor and cannot be found without a microscope. The damage that the toxin can cause, is food poisoning in general, illness and in the worst case even death if not taken the proper care.

Useful bacteria

Bacteria can be very useful to us. Some examples are cheese, yogurt and sour kraut. Also the bacteria that are in the water under the ground are very useful in breaking down certain types of waste. They breakdown dead animals, plants and clean the water that humans uses to swim. However, if the water is seriously polluted, than the bacteria will die as well, and the cleaning of the water cannot continue by the bacteria, which causes the dangerous "botulism". But, even the work of these bacteria is very useful to us, we still cannot allow these bacteria to come in our food, as they can also start breaking down what the bacteria sees as waste in our bodies, but that is actually very useful to us. So, be careful if you get in contact with water from rivers or ponds, and that you clean yourself prior to work with food.

Bacteria that causes food spoilage

These bacteria makes food goes bad, and the products need to be spoiled. It does not necessary means that you will get sick from the consumed goods that went bad, as in most cases the bacteria is also dead because of its own toxin. However, it should be avoid to consume any of the spoiled foods, as they might contain a high level of toxin, and besides that the flavor will be very bad. In all cases you can clearly see the change of color, odor, constituency and flavor if the food went bad. The bacteria that causes food spoilage can be divided into several groups, but as their damage is for all kinds the same, we will not go further into these complicated details. Just keep in mind, that they are very visible and with a little care and attention, they can be discovered before we serve these products to our guests. Be careful with milk, vinegar and eggs, as they contain most of these bacteria.

Dangerous bacteria

Some of the most dangerous bacteria are listed below;
- Salmonella
- Bacillus cereus
- Streptococcus (and the streptococcus anaerobic)
- Glostridium botulinum

For all details about these very dangerous bacteria, please refer to the table at the end of the training, where different types of disease and infections are listed with the prevention measures. Please note that once infected with one of the above mentioned bacteria, in most cases you will be extremely sensitive with even the slightest infection. Proper medical care must be taken once you got infected.

3.3 Viruses

Viruses are the smallest organisms that we know, they can be 10 to 100 times smaller than bacteria. Actually they do not belong to the micro organisms, but to make it easier we categorize them as such. Viruses stay alive by causing other organisms damage. They need other organisms to develop themselves. They multiply causing living cells of for example the humans to die. The virus uses further all recourses of the "host", like water, air, temperature etc. etc. Viruses cannot multiply when they are in our food, but they can stay alive. In most cases viruses die when heating the products up. Cold environments do not damage the viruses, they stay alive, but will not multiply so fast. A famous virus that is especially in Asia a huge disaster is the "hepatitis A" The virus attacks the liver and can stand heating. It is know to cause general tiredness, fever, and throwing up. Also the color of the skin will turn yellow. Mostly the virus is in seafood, but can also be in other products,

However that chance is smaller. The most dangerous are river products, where the risk is even more higher than sea products. Once infected with hepatitis A, you will most likely never cure again. To prevent you from getting this virus, do the following;
- maintain good personal hygiene
- use only certified seafood, and not from the river
- avoid eating uncertified oysters raw
- do not allow people with the virus to work
- after a visit to the toilet, wash your hands properly

Another dangerous virus is the so called HIV. This virus will cause AIDS, where in most cases you will die from, because the virus destroys the natural protection systems of your body, and you will get numerous diseases that can lead to death. The chance that you will get HIV infection by food is extremely small, as when the virus stays outside of the body, it will die very fast. The virus is transferable by sexual contacts, blood contact or other body contact where wounds are openly exposed. The virus get killed if heated up to 60 gr. C, and also the stomach juices kill this virus.

END PART II

Refer to your assigned supervisor to discuss any questions you may have before continuing to the next section. Only once you understand all the contents, move on to the next section.

Hygiene

Training for kitchen department

(Updated March 2014)

PART III

4. Personal Hygiene
4.1 Maintenance of the body
Skin, Ears, Eyes, Feet, Hands, Nails, Teeth, Mouth

4.2 Underwear and cloths
4.3 Uniform
4.4 Decease and preventions

4. Personal Hygiene

Personal hygiene is sometimes under estimated during the production of food items or ingredients preparations, especially at the kitchens of restaurants and hotels.

The human body is not only the most important source of infection; it is also the most common distributor of micro organisms. On and in the entire body are many bacteria. The nose and mouth contain large groups of bacteria.

Also in the intestines are many bacteria and there they also multiply easily. Those bacteria can come on the hands after using the bathroom, and when not washing proper, they can come into food. Also the towels in toilets is a great source of bacteria, because everybody uses those, and not everybody wash their hands proper. Also the handles of the hot and cold water taps are most of the times infected.

Good personal hygiene exists out of;

- daily shower or bath
- clean hair
- clean hands
- short and clean nails
- daily clean underwear
- clean clothes and uniform
- good shoes

- daily clean socks

Good personal hygiene does not end at the house, it continues at work as well, so,

- always wash your hands
- take care of the entire body
- wear solid and strong shoes, and use them only in the kitchen area
- do not wear watches or jewelry
- do not use coloring for nails or hair

There are companies that provide daily clean uniforms (like our hotel). This is the best solution. Some companies also provide clean underwear as part of the uniform. (mostly institutions that produce food like hospitals, old age homes etc.) If staff who work in the cold kitchen have a cold, it is better not to work, as most of the food in the cold kitchen is not heated anymore, and therefore a very dangerous source of infection.

4.1 Maintenance of the body

The Skin

A good maintenance of the skin is very important to let the body function proper. The skin contains small cells that produce sweat and fat. The outside of the skin changes a lot. It "falls" off in small pieces and new skin (second layer) is visible. This way your skin keeps on changing regularly.

In the environment you are there is always some dirt. This will come on your skin. Also the bacteria and virus that are "flying" in the air will land on your skin and you will become a source of infection. Also the sweat that your skin produce, will have leftovers that will dry. This cause a very unpleasant smell, and causes the skin to get dirty. The consequences of a dirty skin are;

- the cells that produce sweat will get stuck with dirt, so they cannot let the sweat go out
- the breakdown of leftovers of sweat will start to give unpleasant odors
- micro organisms start to multiply, so higher risk for infections.

The skin (of the entire body) needs to be cleaned at least once a day with water and soap. The most effective way is to shower. Taking a bath is not hygienic at all, as you are soaking in your own dirt. The usage of soap during a shower is to;

- remove the fat that is on the skin
- remove the unpleasant odors of sweat
- kill the micro organisms

When you are sweating a lot, it is very recommendable to take multiple showers a day and use a des infective soap that kills the micro organisms. (use this soap only once a day as it can also damage the cells of the skin when using too much)

Rinse your body with cold water and dry your self very good. This is the most effective way preventing your body from sweat.

Also the use of body powder is recommendable for people that sweat a lot. Try not to use deodorant to often as it can damage the cells that produce the fat and sweat, and they could get infected. This can be very painful.
There is a reason that your body produces fat and sweat. The reason it produces sweat is that it is a way to transport the "dirt" and "waste" out of the body cells and bring it out of the body.

The reason your body produces fat is to create a "film" layer on your skin preventing micro organisms to go in your body and cause infections. One very dangerous bacteria is the so called "staphylococcus", this one can be on your skin when you have not enough fat on the skin, and you will be able to infect others without you getting sick.

Another unpleasant disease is mold and fungus on your skin. Believe it or not, but it is very easy to get these and than it is so difficult to get it off, and to cure. Mostly they are at places which are more humid, like under the arms, the butt and between the legs. Also the feet are a very common place for mold and fungus. Once they are there it is almost impossible to remove them forever!

To prevent yourself;

- dry your skin after shower very well
- use body powder for your feet after shower

- use daily clean socks
- use slippers in areas where a lot of people walk bare feet
- keep your shoes dry and clean

The Ears

Clean your ears regularly. The canal needs to be cleaned with cotton, but not the cotton buds as they push the dirt deeper and deeper. Just use a small tissue and use the point of it to clean the inside of the ear. Do not push to hard, as you only push the dirt deeper. If you feel your ear is "full", please consult a doctor to have it cleaned carefully. When not being careful, you can cause severe damage to your ear and might even get deaf.

The Eyes

Usually the eyes do not need a lot of maintenance as they clean them selves. While having tears is a natural way to clean the eye. Should there be any small piece of dirt in the eye, than try to use a small tissue to remove it. If after "crying" still the dirt is not gone, than consult a doctor.

The most common to get in to your eye is dust or sand, during traveling on the road.

The Feet

The feet are "carrying" your whole body. That means that there is a lot of pressure on your feet. It is very easy to get injuries at the bones in your body because of standing positions. Always stand and walk straight.

Use clean socks and shoes at any time. Socks need to be able to absorb the sweat that comes from your feet. When taking care of your feet, please let the feet soak regularly in cold water after washing. This keeps the cells open and also it works very relaxing for your feet. If the shoe is made out of leather, that is the best way. It keeps the shoe "breathing". Make sure the bottom of the shoe is not higher than 2.5cm. The area at the back of the shoe must not be to hard. The space between the largest toe and the shoe front should be 1.5 cm. The toes must be able to spread, so do not keep shoes too tight.

The Hands

Most things are toughed with the hands. That's why the risk is high to get an infection at your hands, or to get micro organisms on your hands. To prevent them from this wash them very regularly. Especially when preparing food. Make sure the nails are short as well.

The hands need to be washed at least 20 minutes before:

- preparations of food
- having meals
- cleaning and maintenance of wounds

and after:

- when contacting food or ingredients
- treating of wounds
- cleaning of the nose
- usage of toilet
- working with dirty ingredients, materials or in an dirty invironment
- contact with sick people or animals
- changing of work (-and place)

The decease causing micro organisms can easily be spread with dirty hands. After the usage of the bathroom small invisible cells could be on the hand and or under the nails. Via this way somebody that is working in the kitchen can cause food poisoning to other colleagues or guests.

Other methods of preventions are;

- avoid contact with water taps buttons or handles with the hands
- use paper towels to dry your hands, not cloths or use a hand dryer machine
- use a water tap that you can control via food pedals, or use a water tap with an electronic sensor.

The sensitive skin of the hands

Some people have a very sensitive hand skin, so they need to use a cream, or medications. Be always aware that while using cream or medications, to make sure that they do not come in contact with food at any time. In any case, if you must use these medications or cream, use than gloves to work with food.

Also while having a skin decease, use the cloves.

The Nails

A nail brush is a great source for bacteria and other micro organisms. This can be prevented while using a sterilizing machine for these equipments. Make sure that the nails are short, and do not use any nail polish or paint.

The Head and Hair

Hair are kept soft and glazy caused by the hair fat that the cells produce in the hair. While brushing the hair, dust will be removed and the fat will be distributed equally. Make sure the brush is soft, and not hard, as that might damage the hair. Wash the hair brush daily, and never use somebody else's brush. Rinse your hair daily, but do not use the shampoo every day, as it will damage your hair more than it does good. Twice a week is sufficient to use shampoo and while washing the hair, do not forget to wash the head skin as well. They sometimes contain small pieces of dead skin that is left behind. The shorter the hair, the better. When you have long hair, it takes a lot of time to maintain it, and you need to brush it very regularly. Also while working in areas of food preparations, keep the hair together.

Another reason to brush hair is to remove the hairs that fall loose. Every body loses hundreds of hairs every day, so by brushing it thoroughly you will remove the loose hair. Do this at least twice a day, morning and evening, and do it in the designated area.

The Teeth

Under personal hygiene we also must count the maintenance of the mouth, with extra attention to the teeth. A bad condition of the teeth, can cause many different illnesses like partially

paralyzing of the body, brain damage, hair fall out, pain, blood deceases and so on.

The outer layer of the teeth exist out of a glaze; under that is the teeth bone. The glaze is the hardest material our body has. It can stand a lot, except acid. The damage to the teeth is generally caused by acids. These acids are created by bacteria that are in our mouths and they use sugar to change sugar into acid. The more often these acids are in contact with our teeth, the worse it becomes. It goes straight through the glaze and it will damage the softer teeth bone. After that it goes straight through the bone to the nerves. This is causing pain. A dentist can clean the teeth, and fill the hole, but he cannot cure the infection. It could easy start at another location of the teeth.

The maintenance of your teeth and mouth is the most delicate of all. Also the mouth is the most easiest source for infections or spreading micro organisms.

A very good mouth hygiene is essential to maintain a good general health. Take good care of your teeth, and your teeth will take good care of you. Nothing is worse than living without teeth.

The best timing of brushing the teeth is after breakfast and before going to bed. It is better to do a twice daily thoroughly good brush rather than three or four times a day only half.

To maintain good conditions of the teeth, always;

- brush for at least two minutes, and use different techniques to cover all areas.
- use floss strings or anti carries liquid to support the brushing
- use a clean and medium soft brush with a short head
- use tooth paste that contain fluoride

Avoid;

- candies
- soft drinks
- pastries or cookies
- drink yogurt or other sugar containing liquids

4.2 Underwear and cloths

The function of cloths is to protect us against influences from outside, mainly the weather conditions. In contradict to animals we do not have a thick skin that can protect us. Our body temperature is 37gr. C, so our environment is usually a little colder than that. That is one of the reasons we wear clothes.

Another reason is to cover parts of our body because we do not want others to see them. This is a more physical reason.

Another reason is to protect certain parts of our body against infections from outside.

The cloths need to fit and needs to be an "extension" of our skin. It needs to breathe just as our skin. Several materials are better than others for that reason. Nowadays we choose our clothes more on fashion, rather than practical reasons. It is absolutely understandable to choose clothes that fits your style, because once you wear cloths you like, you feel happy and have more self confidence, which contributes again to the mental health.

However, we should still try to be practical while choosing our cloths. Keep fashion and practical both in mind and choose for cloths that can "breathe". Especially the outer layer or cloth. If it can let some air go through, it is beneficial to our body functions, and you will feel more comfortable. Most people do not realize it, but your choice of cloths depends a lot on the feeling when you wear certain cloths. If you see a nice jacket and you wear it, it can make you feel too hot and sweaty, so you will not choose it. This is caused by your body more than your head!

Try, whenever possible to wear light clothes if the situation allows you. Only in cold climates people need to wear thick cloths. In warmer areas it is better to use silk, or other light material. The lighter the material, the more easy it is to breathe though it. Do keep in mind that the body must be covered properly to protect you from outside influences. While sleeping it is better to use a very thin cloth, as your body needs to rest, and if it needs to put a lot of energy in breathing through the thick cloths, than you will feel tired and sweaty the next day.

Wear the right clothes for the right purpose. For sports, working, leisure are different cloths available. In most cases cloths for work are provided by the employer.

Keep your clothes clean at all times. Use the therefore proper washing liquids and methods. Also drying of the clothes is a very important matter. Some people are also allergic to certain washing liquids, so be careful when choosing the chemicals.
Safety of the cloths is also important. Some clothes can easy set to fire, and will burn fast. Check before you purchase if the clothes are safe.

4.3 Uniform

Uniform cloth can be requested because of several reasons;

- Hygiene,
  The manager in charge or as per company policy, to maintain a good hygiene standard at all F & B outlets

- Protection,
  The cloths needs to give protection during the work. For example protection against hot oils, or heavy acids.

- Standards,
  To recognize the company, section or department. This is for guests very important, so they can see the difference between the staff.

Uniforms are not just made for fun, they are practical. Some points;

- Good and easy to clean
- Strong and good quality
- They must be light, fresh looking and able to "breathe"
- Easy to iron
- White color (in case of kitchen uniform)
- Easy to put on and off (in case of emergency)
- Not have any parts hanging loose
- Non flammable
- Right size

That's why you need to maintain your uniform while wearing it. Use it only for its purpose, to protect your self. Do not use your uniform to clean something, dry something or worse to wipe your hands. Use your uniform only to protect your self, and use the designated towels to do the cleaning.
Rules and regulations regarding the uniform are in the employees handbook, so please refer to that chapter and study them

4.4 Decease and preventions

People can carry decease causing micro organisms without self being sick. They can transfer these dangerous bacteria or other organisms to others and they can get sick.

At some medical checks they check also the waste of the patient, just to see if there is any salmonella bacteria in there. A medical check-up for kitchen staff should be done once every two months. Even then it is still not easy to find deceases, as somebody could get infected immediately after the check while going home or to work.

The best thing is that if cooks are sick and have diarrhea not to let them work. Also, if somebody at there home has diarrhea, the staff needs to inform their supervisor about that. It is very important!

Also people with wounds should not be working in the kitchen to protect both, them and the guests. If you have a wound, it is easy to get an infection when working with raw ingredients, and if you are infected, it is easy to infect others or other ingredients with the liquid that comes out of the wound.

Another serious matter is food poisoning, if anybody has it, immediately you should go to see the doctor, and do not come to areas where people work with food.
Even when you have a cold or the flu you should not be working!!!!

END PART III

Hygiene Part I, II and III.
Tests to be given separately.
Passing these tests is mandatory to pass probation.
Applicable to all guest kitchen hosts

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