



**Enriching Knowledge for the SS Tourism
and Hospitality Studies Series**

***Introduction to Hospitality –
Food Safety (New)***

After this seminar, you should be able to:

- Understand the importance of implementing food hygiene and safety practices in hospitality industry
- Differentiate different causes of food contamination
- Apply safety discipline, hygienic food production according to industrial standard





Importance of Food Hygiene and Safety

Cost of a foodborne illness to operations

- Loss of sales
- Business closures
- Fines and prosecution
- Low staff morale
- Cost of re-training
- Loss of jobs

In extreme case, foodborne illness may kill people!



Importance of good hygiene

- Compliant with the law
- Earn reputation and boost business
- Provide quality meal experience to guests
- Provide suitable working environment to staff
- Reduce staff turnover and maintain morale
- Reduce unnecessary food wastage



Think about it: Why does food become unsafe?

Some of the possible causes that make food become unsafe include:

1. Purchase food or ingredients from unsafe sources
2. Failing to cook food adequately
3. Holding food or ingredients at incorrect temperature
4. Using contaminated equipment
5. Poor staff personal hygiene practice





Reasons that make food unsafe

Main causes that make food unsafe

Time-
temperature
abuse

Contamination

Personal
hygiene



Time-temperature abuse

- Food stays too long at temperatures that are good for the growth of pathogens
 - Food is not holding in a correct temperature
 - Food is not cooked or re-heated enough to kill pathogens
 - Food is not cooled in the right way



Time-temperature abuse

- Many foodborne illness is caused by food which is sitting in a temperature remaining at 5°C-60°C, called “**danger zone**”, for too long, usually more than 2 hours
- Bacteria will grow much faster at 21°C-52°C, just like the body temperature, 37°C



Cross-contamination

- Harmful substances transfer from one surface to the food, like:
 - Contaminated food receive no further cooking
 - Ready-to-eat food touches contaminated surfaces
 - Food handler touches contaminated surface and then touch the ready-to-eat food
 - Contaminated towel touches food preparation or holding surface



Types of food contamination - Biological

○ Bacteria:

- Salmonella – Raw meat, undercooked eggs and egg products

○ Virus:

- Norovirus – Raw oyster, contaminated water

○ Parasites:


- Flukes – Raw freshwater fishes

○ Fungi:

- Mold – Growing on bread, fruit, etc.



Types of food contamination - Chemical

- Food additives:
 - Sulphur dioxide – food preservatives which may induce allergic reactions
 - Pesticide and veterinary drug residues:
 - DDT – high dose of DDT may cause vomiting or tremors
 - Chemical detergents:
 - Bleach – cause serious poisoning symptoms
 - Container materials:
 - Melamine tableware – chemicals may release when using microwave which causes kidney failure
 - Biochemical toxin:
 - Ciguatoxin – commonly found in groupers and coral reef fish
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Types of food contamination - Physical

- Although some may not pose threat to customers' health, they may do harm to customers
- Hair, bandages, metal strips, broken glass, fish bone, etc. are common examples of foreign objects



Poor personal hygiene

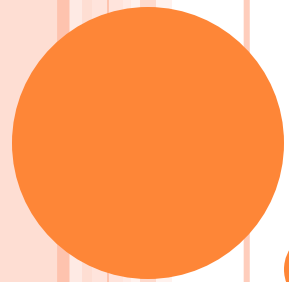
- Food handler does not wash hand properly after touching contaminated surface
- Come to workplace while sick
- Cough or sneeze on food
- Touch or scratch wounds, and then touch food



Key focus on foodborne illness prevention

- Controlling time and temperature
- Preventing cross-contamination
- Practicing personal hygiene
- Purchase food from approved, reputable suppliers





Understanding Food Hazards



Sources of food hazards



Bacterial contamination is the most common cause for food poisoning

Types of pathogens

- Four main types of pathogens that can cause foodborne illness:
 - Viruses: only reproduce inside a plant, animal, or person
 - Bacteria: can live inside or outside the human body
 - Parasites: complex living organism which live in intestinal tract or blood stream
 - Fungi: take nutrition from a plant, food, or animal



What pathogens need for growth

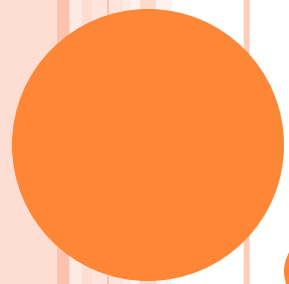
- **F**ood
- **A**cidit**y**
- **T**emperat**u**re
- **T**ime
- **O**xygen
- **M**oisture



Biological toxins

- Biological toxins can be made by animals, plant, or pathogens
- Toxins can't be smelled or tasted
- Certain types of toxins can cause illness, or even kill people
- The most effective prevention measure is to purchase food from approved suppliers





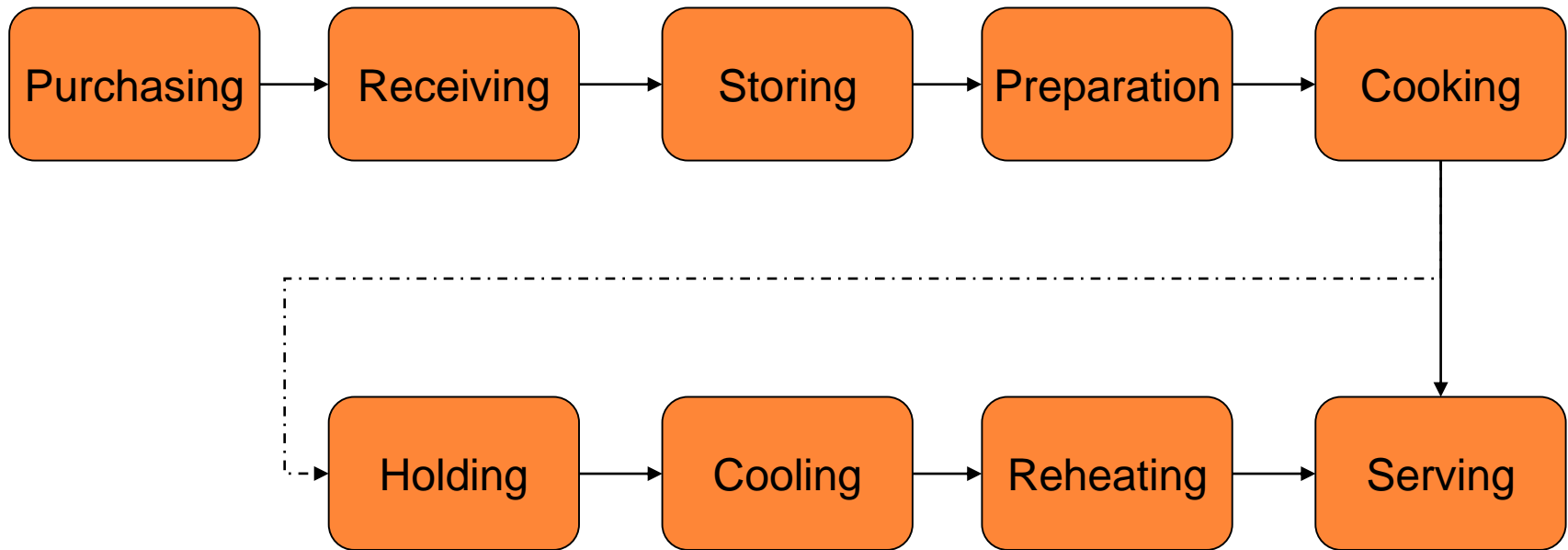
5 Keys to Food Safety



Think about what you
will do when preparing
dinner for tonight



The flow of food in F&B operation



There will be potential food hazards in each stage if not handled properly!



5 keys to food safety

Choose

Clean

Separate

Cook

Safe
Temperature



Purchasing and receiving guidelines

- Only purchase food materials from reputable suppliers with valid licenses
- Deliver the goods in their optimum temperature and conditions
- Order proper amount of raw materials to reduce the problems emerged from large storage
- Through inspection about packaging, expiry date, temperature etc. is required
- Goods should be moved away from receiving area and stored in correct temperature immediately



Storage guidelines

- Stored items at their correct temperature
- Containers which have direct contact to food should be cleaned and sanitized before holding new food
- First-in-first-out system is used when using stored items
- Don't put raw and cooked food together
- Storage area and shelf should be cleaned regularly



Proper ways of thawing

- Refrigeration:
 - Defrost food in chiller which at around 5°C or lower
- Running water:
 - Submerge the food in clean running water under 21°C or lower
- Microwave:
 - Defrost food in microwave just before cooking
- Cooking:
 - Cook right after food is taken out from freezer (e.g. french fries)

Warning: Do not thaw food in ambient temperature or still water



Raw materials preparation

- Use cleaned and disinfected equipment and utensils
- Always keep hands clean
- Use a colour-code system to distinguish the equipment and utensils
- Soak and wash vegetables and fruits thoroughly
- Avoid handling food too early in advance



Cooking in right temperature

75°C

- Poultry
- Stuffed meat
- Previous cooked food (reheating)

68°C

- Ground meat and seafood
- Eggs that will be hot held
- Injected meat like ham or sausage

63°C

- Seafood
- Steaks
- Eggs that will be served immediately

57°C

- Ready-to-eat food served hot
- Fruit, vegetable, rice, pasta, beans

Food internal should reach the corresponding required temperature for 15 seconds or more



Cooling food

1. First, cool food from 57°C to 21°C within 2 hours
2. Then cool it to 5°C or lower in the next 4 hours
3. The total cooling process cannot be longer than 6 hours
4. If any of the rules are violated, food should be discarded



Holding hot food

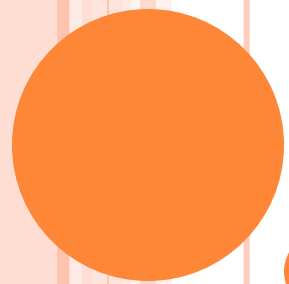
- Hold hot food at 60°C or higher. If there is no temperature control, it can be held for up to 4 hours
- Hot food holding equipment should not be used in reheating food as they can't reheat the food at the internal temperature of 75°C



Holding cold food

- Cold food should be held at 4°C or lower. If there is no temperature control, it can be held for up to 6 hours
- Cold food should not exceed 21°C, if so, food should be discarded





Personal Hygiene



Bad practices of a food handler

- Scratching scalp
- Running fingers through the hair
- Touching the nose
- Rubbing an ear
- Touching infected wound
- Wearing dirty uniform
- Coughing or sneezing into the hand
- Spitting in the operation



Hand practices – When to wash hands?

- After handling raw meat
- After touching hair, face, body
- After sneezing, coughing
- After eating, drinking, smoking
- After handling chemical
- After clearing equipment, utensils and garbage
- After touching uniform or apron
- After handling money



Hand practices – Hand Care

- Short finger nails
- No nail polish
- Wear color bandage over wounds and single use gloves



Hand practices - Gloves

- Single-use gloves can create barrier between hands and food, but NEVER treat as substitute of hand washing
- Never wash and re-use the gloves

When to change gloves?

- As soon as they become soiled or torn
- Before beginning a different task
- At least every four hours
- After handling raw meat, before handling ready-to-eat food



Personal cleanliness

- DO NOT eat, drink, smoke or chew gum at any of these times:
 - When prepping or serving food
 - When working in prep area
 - When working in areas that are used to clean utensils or equipment
- Sick reporting
 - Staff that are sick or suspected to have foodborne illness should not work with or around food
 - Staff who have vomiting or diarrhea should return back to work after having no symptoms for at 24 hours



Staff clothing

- Hair restraints

- Hair should not be exposed, or should be tied up

- Clean clothing

- Dirty uniform should be kept away from prep area

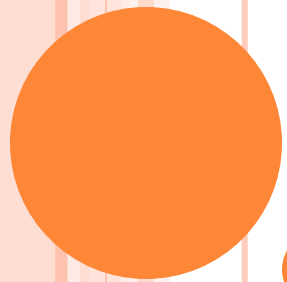
- Aprons

- Should not wear apron out of prep area

- Jewelry

- No jewelry, watches, rings

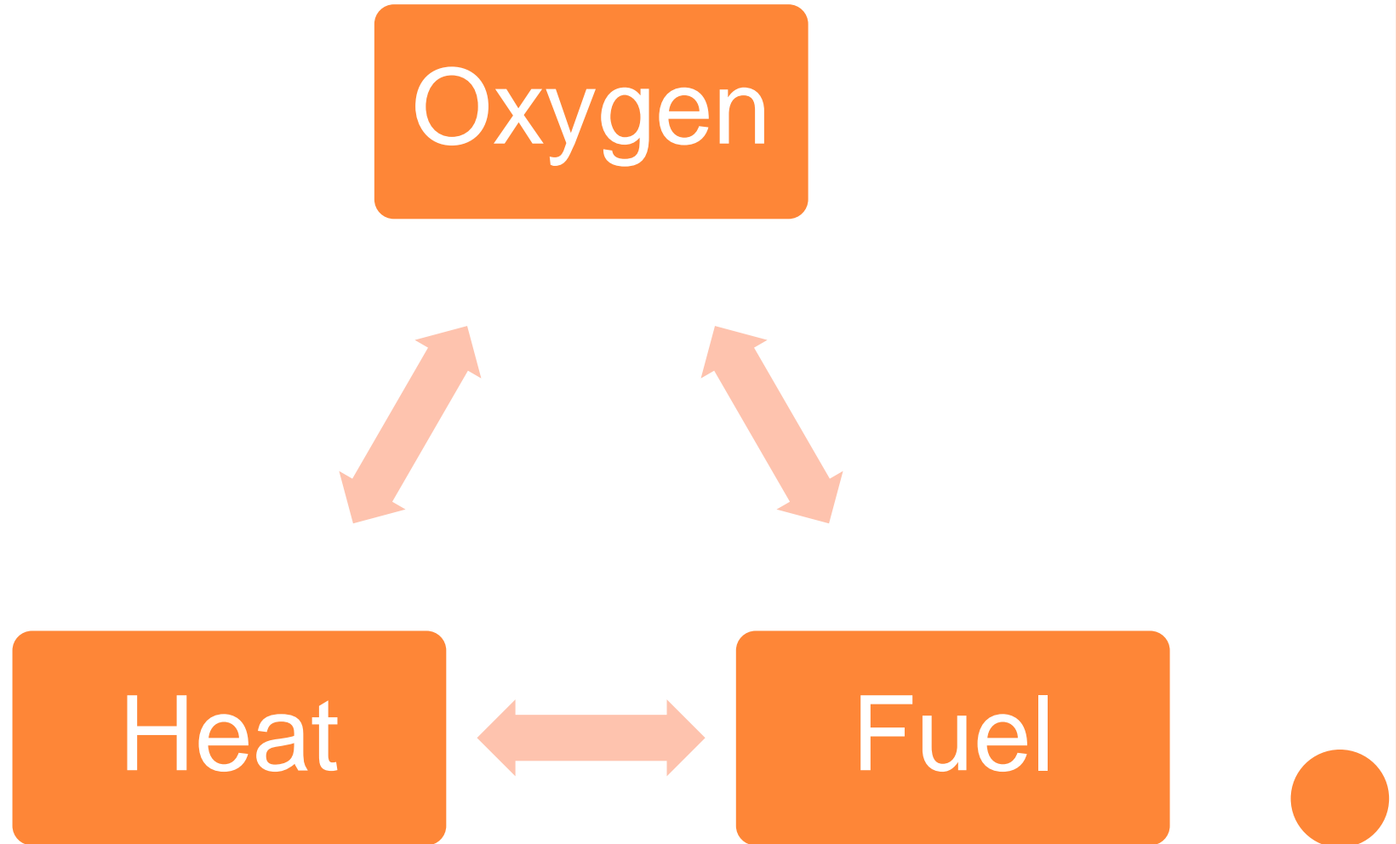




Fire Safety



Fire triangle



Fire prevention

- To prevent any fire accident, the basic principle is to control all sources of heat and fuels, for example:
 - Keep the workplace tidy and exercise care in handling heat sources
 - Inflammable materials, clothes and paper should be stored appropriately and away from sources of heat
 - Install, use and maintain electrical appliances properly
 - Clean the exhaust hood and ducting regularly
 - Never smoke in non-designated area



Fire fighting equipment

- In case of fire, fire fighting equipment can help to extinguish small fire, or reduce the spreading area
- Sufficient fire fighting equipment should be installed in those high risk area (e.g. kitchen)
- Select and use fire extinguishers appropriately
- Never obstruct the above equipment with other objects or materials



Common types of fire fighting facilities (1)

	Carbon Dioxide Gas Type Extinguisher	Water Type Extinguisher	Dry Powder Type Extinguisher	Clean Agent Fire Extinguisher
Use	On electrical fires, flammable liquids, electronic equipment or documents.	On fires involving wood, plastic, textiles or paper.	On most fires, including flammable liquids or electrical fires.	On electrical fires, flammable liquids, electronic equipment or documents
Notes	Vapours will asphyxiate. Withdraw to open air after use.	Never use on fires involving electrical or flammable liquids or metals.	Discharged dry powder may reduce visibility and cause disorientation.	Withdraw to open air after use.

Source: Fire Services Department



Common types of fire fighting facilities (2)

	Foam Type Extinguisher	Fire Blanket	Sand Bucket
Use	On fires involving flammable liquids	On fires involving flammable liquids, such as small fires in the kitchen or laboratory	On small fires or fires involving metals.
Notes	Never use on electrical fires	-	It can also be used for cleaning flammable liquids spilt on the ground.

Source: Fire Services Department



Fire escape

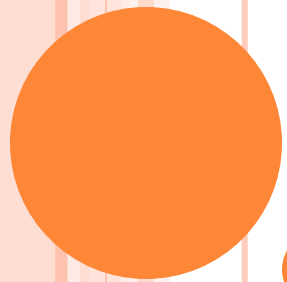
- Employees should be familiarized with the emergency response in case of fire, including the emergency procedures and escape routes. Regular fire drills should be practiced
- Smoke lobby doors should be closed at all the times, but not locked
- Fire escape routes must be kept clear



Reference

- Education Bureau (2013), *Introduction to Hospitality*, The Government of the HKSAR
- National Restaurant Association (2010), *ServSafe Essentials*, 5th edn., National Restaurant Association Education Foundation





Q&A

