

Lecture 4- Hygiene and Sanitation in Food Service Establishments and Sources of food contamination and their control.

Food borne illness outbreak can cost an establishment in following ways-

- huge amount of money is lost, it can even be possible an establishment is forced to closed.
- Loss of customers and sales
- Loss of prestige and reputation
- Lawsuits • Increase insurance premiums
- Lowered employee morale
- Employee absenteeism
- Increase employee turn over
- Embarrassment

Food contamination

Food contamination refers to the presence of harmful objects, chemicals and microorganisms in food, which can cause consumer illness. The impact of chemical contaminants on consumer health and well-being is often apparent only after many years of processing and prolonged exposure at low levels. The agents causing food contamination are called food contaminants which are of following types-

1. Physical contaminants

Extraneous matter (hair, husk, bolts, stones, nuts etc.)

Insect infestation

Rodent excreta

Weeds

2. Chemical contaminants

Pesticides

Drugs/antibiotics

Heavy metals

Environmental contaminants (Dioxins, Furnas)

Radioactive contamination

3. Biological Contaminants

Mycotoxins
 Pathogenic microorganisms
 Hormones
 Allergene

CROSS-CONTAMINATION

Cross-contamination is the accidental transfer of contaminants from one surface or substance to another, usually as a result of improper handling procedures. In a food setting, the term refers to the transfer of contaminants from a surface, object or person to food. Cross-contamination usually refers to biological contamination but can also be physical or chemical.

Cross-contamination in a food business often occurs as a result of:

- Food Handlers (e.g. microorganisms from sweat, sneezing/coughing, hands, hair, clothing)
- improper food handling techniques (e.g. reusing cutting boards or utensils for raw and cooked food or for different types of food)
- improper cleaning and sanitizing (e.g. not properly rinsing cleaning chemicals from preparation surfaces, dishware, glassware or equipment)
- improper food storage (e.g. storing raw meat on shelves above ready-to-eat food)
- improper waste disposal (e.g. allowing garbage containers to overflow)
- pests

Cross-contamination can also pose a risk to customers with food allergies, as trace amounts of an allergen can be transferred in the same way that microorganisms can. Even trace amounts of an allergen can cause a serious allergic reaction — in some cases, a lethal reaction. As a food business owner, manager or employee, it is your responsibility to serve customers a safe meal, including customers with food allergies.

Table 1- Control measures to prevent food contamination

Contaminant	Control measures
Biological	<ul style="list-style-type: none"> • keep high-risk foods (e.g. meat, poultry, dairy, eggs) out of the Temperature Danger Zone** • purchase, store, thaw, prepare, cook and serve high-risk foods properly • regularly clean and sanitize all food contact surfaces and equipment • maintain good overall hygiene and sanitation of the premises • maintain high standards of personal hygiene (and ensure all

	employees do the same)
Chemical	<ul style="list-style-type: none"> • label and store chemicals separately from food • use the appropriate chemical for the job you're doing • follow the chemical manufacturer's instructions with regards to dilution, contact time and water temperature • use chemical pest control products with extreme care or outsource pest eradication to a professional pest control service
Physical	<ul style="list-style-type: none"> • wear hair neatly tied back or wear a hair/beard net • keep jewellery to a minimum • when necessary, wear brightly coloured bandages that can be easily seen if they fall off • throw out and replace cracked, chipped or broken dishware, glassware and equipment • use a plastic or metal scoop for ice (never use the glass!) • wash fruits and vegetables thoroughly • establish pest prevention and control procedures as part of your Food Safety Plan
Cross contamination	<ul style="list-style-type: none"> • move around the business in accordance with the Food Safety Plan (e.g. change soiled kitchen clothing before moving from raw food to ready-to-eat prep stations) • cover and store raw food on shelves below cooked or ready-to-eat food in the refrigerator • use separate equipment or utensils to prepare raw and cooked foods • use separate equipment or utensils to prepare different types of foods • prepare allergen-free meals separately • establish allergen management procedures as part of your Food Safety Plan • maintain high standards of personal hygiene • wash hands frequently using the correct hand washing technique • handle and dispose of food scraps and waste properly (e.g. ensure garbage containers are sealed and stored away from food)