

Food Safety In Catering: Basic Concepts



**Presented at the
NAFDAC/Nugata Consults
Food Safety Workshop, 6th
August 2015, PEFTI Hall, 3/5
Joy Ave, Ajao Estate Lagos**

By

**Jane Omojokun
Nugata Consults**

www.nugataconsults.com

Objectives

- Institutionalize mandatory baseline knowledge of food safety for Quick Service Restaurants (QSRs)
- Highlight the importance of food safety and Good Hygienic Practice (GHP) in catering
- Emphasize the importance of training & retraining



Outline

- Food Safety
 - ✓ Definitions
 - ✓ Basic Principles
 - ✓ Microbiology & illness
- Food Safety Hazards
- Food Premises & Equipment
- Food safety Management- A Documented System





Definitions

- Food safety: Assurance that food will not cause harm to the consumer when prepared and/or eaten according to its intended use
- Food-borne disease: An illness caused by micro-organisms carried by food or water
- Food-borne illness : General term for illnesses caused by eating contaminated food



Definitions

- Food poisoning: Illness caused by eating food contaminated by harmful substances or by harmful living micro-organisms present in the food
- Contaminant: Any biological or chemical agent, foreign matter or other substances not intentionally added to food, which may compromise food safety or suitability
- Contamination: Introduction or occurrence of a contaminant in food or food environment



Definitions

- Hazard: A biological, chemical or physical agent or condition of food with the potential to cause adverse health effect
- Risk: Probability of the occurrence of an adverse health effect & the severity consequential to a hazard
- Hazard Analysis Critical Control Point (HACCP) A system which identifies, evaluates and controls hazards which are significant to food safety



- Food safety protects everyone.
- Food handlers have an important role to play and the legal responsibility to protect food so that it does not cause illness or harm
- Poor food hygiene causes pain and distress for individuals and loss of revenue, jobs and damaged reputation for the QSR



As a food handler, your role in food safety includes:

- Keeping yourself and your environment clean
- Maintaining good hygienic practices e.g. hand washing before handling food & after using the toilet
- Understanding how the laws & regulations affect your work & following the rules and instructions for food safety in your work place
- Being alert to food safety hazards and preventing them
- Protecting food from contamination



BENEFITS OF EFFECTIVE FOOD HYGIENE:

- Satisfied & loyal customers
- Increased revenue
- Less food wastage and controlled running cost
- Employment creation & job security
- Compliance with food safety laws and freedom from NAFDAC regulatory sanctions
- A good reputation



CONSEQUENCES OF POOR FOOD HYGIENE:

- Food poisoning
- Customer complaints and possible loss of revenue
- Higher running costs because food has to be thrown away
- NAFDAC Regulatory sanctions & possible legal actions
- Possible redundancy and closure of business
- Poor working condition
- A bad reputation



Food Poisoning Causes and Symptoms



There are 2 types of food-borne illness namely Food Poisoning and Food-borne disease

1. Food Poisoning

- Commonly caused by bacteria:
- Many bacteria do no harm
- Few, referred to as pathogenic bacteria, are harmful & cause illness
e.g. *Salmonella*, *Staphylococcus aureus*, *Clostridium botulinum*

Other Causes:

- Viruses
- Moulds
- Poisonous plants & fish
- Chemicals & metals

WHERE DO PATHOGENIC BACTERIA COME FROM?

- Raw foods, especially meat, poultry, eggs, shellfish & vegetables
- People
- Air & dust
- Dirt & food waste
- Pests & pets

FACTORS THAT CONTRIBUTE TO FOOD POISONING:

- Holding temperature
- Inadequate cooking
- Personal hygiene
- Contaminated equipment

- Most common symptoms of food poisoning:
- Abdominal pain
- Vomiting
- Diarrhoea
- Nausea
- Other signs include fever & headache. Food poisoning can be life-threatening



illustrations of.com #1080786

2. Food Borne- Disease

- Passed unto humans by microorganisms carried by food or water e. g. *Campylobacter enteritis* which causes diarrhoea, *Escherichia coli* O157 (*E. coli*), typhoid, dysentery and a form of hepatitis
- Only a few of these organisms can cause disease
- Incubation period can be days, weeks or months
- Illness can last a day or so, or continue for years because the infection can invade the blood stream causing serious long-term health problems
- Symptoms of other FBDs include kidney failure or paralysis which can lead to death

PEOPLE AT RISK FOR FBDS

Anyone can be affected but some people are particularly at risk namely:

- The very young
- The elderly
- Ill or convalescing people or who have weakened immunity to disease
- Pregnant women & nursing mothers

Organism	Common Name of Illness	Onset Time After Ingesting	Signs & Symptoms	Duration	Food Sources
<i>Bacillus cereus</i>	<i>B. cereus</i> food poisoning	10-16hrs	Abdominal cramps, watery diarrhea, nausea	24-48 hours	Meats, stews, gravies, vanilla sauce
<i>Campylobacter jejuni</i>	Campylobacteriosis	2-5 days	Diarrhea, cramps, fever, and vomiting; diarrhea may be bloody	2-10 days	Raw and undercooked poultry, unpasteurized milk, contaminated water

Organism	Common Name of Illness	Onset Time After Ingesting	Signs & Symptoms	Duration	Food Sources
<i>Staphylococcus aureus</i>	Staphylococcal food poisoning	1-6 hours	Sudden onset of severe nausea and vomiting. Abdominal cramps. Diarrhea and fever may be present	24-48 hours	Unrefrigerated or improperly refrigerated meats, potato and egg salads, cream pastries

Organism	Common Name of Illness	Onset Time After Ingesting	Signs & Symptoms	Duration	Food Sources
<i>Salmonella</i>	Salmonellosis	6-48 hours	Diarrhea, fever, abdominal cramps, vomiting	4-7 days	Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits and vegetables

Organism	Common Name of Illness	Onset Time After Ingesting	Signs & Symptoms	Duration	Food Sources
<i>E. coli</i> (<i>Escherichia coli</i>) producing toxin	<i>E. coli</i> infection (common cause of “travelers’ diarrhea”)	1-3 days	Watery diarrhea, abdominal cramps, some vomiting	3-7 or more days	Water or food contaminated with human feces

Organism	Common Name of Illness	Onset Time After Ingesting	Signs & Symptoms	Duration	Food Sources
Hepatitis A (Hepatitis A Virus)	Hepatitis	28 days average (15-50 days)	Diarrhea, dark urine, jaundice, and flu-like symptoms, i.e., fever, headache, nausea, and abdominal pain	Variable, 2 weeks-3 months	Human fecal contamination via water or direct, uncooked foods and cooked foods that are not reheated after contact with an infected food handler ; shellfish from contaminated waters

Food Safety Hazards

Harmful substances that can contaminate food

- 3 types of Hazards
 - Biological
 - Chemical
 - Physical

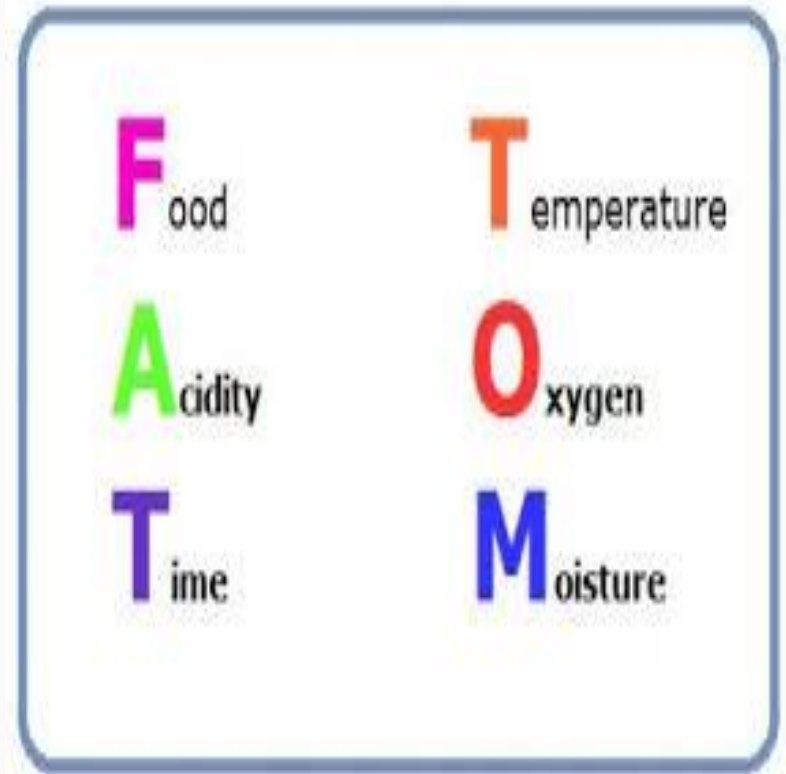


EXAMPLES OF HAZARDS OR CONTAMINANTS

- Physical: stones, scales from fish, bone fragments, insects, hair, jewellery, nuts & bolts from equipment, glass fragments etc
- Chemical: cleaning chemicals, industrial processing chemicals, agricultural chemicals, pesticides, pest baits etc
- Biological: food poisoning bacteria, viruses, microscopic parasites

- It's easy to see how physical & chemical contamination arise during the various stages of food processing from farm to fork but not the invisible problem of microbial contamination.
- Bacterial contamination occurs when:
 - ✓ Raw food e.g. poultry & vegetables are contaminated by bacteria in the environment or
 - ✓ Pathogenic bacteria are transferred from a raw food to a high risk food by direct, indirect or cross contamination at any stage of handling.

Microorganisms generally require food, acidity, time, temperature, oxygen and moisture in order to grow. Remember “FAT TOM”



EXAMPLES OF HIGH RISK FOODS:

- cooked meat and fish.
- gravy, stock, sauces and soup.
- shellfish.
- dairy products such as milk, cream and soya milk.
- cooked rice.

- Direct Contamination: When a raw food touches a high risk food
- Indirect Contamination: When liquid or juices from a raw food drips onto a high risk food
- Cross contamination: When bacteria are carried, for instance by hands & utensils, from raw food to high risk food

To Prevent Contamination:

- Separate raw and cooked food always
- Use separate equipment for raw and cooked food
- Keep food covered until use
- Don't touch food with your hand unless absolutely necessary. Use utensils such as forks & tongs to move food
- Follow strict personal hygiene habits e.g. keeping clean, hand washing, keeping any cuts, boils etc covered
- Do not eat, smoke or chew gum in food areas
- Remove food waste & rubbish frequently
- Keep food area clean. Clean & disinfect all equipment, utensil and other food contact surface after each food task
- Report signs of pest
- Store cleaning chemicals in secure, clearly labelled containers away from food

FOOD PREMISES & EQUIPMENT

- Design of food premises should prevent contamination including allowing safe work flow particularly the separation of raw & cooked food and also clean and dirty activities, permit easy cleaning, pest control, safe disposal of waste, temperature control of food i.e. adequate ventilation to stores & food preparation rooms
- Construction should be with durable, impervious, smooth, easy to clean, heat resistant materials

- Food equipment & utensils should be smooth, durable, impervious, non-toxic, rust resistant, easy to clean, & resistant to chipping.
- Services & facilities such as toilets, hand washing basins, good lighting, ventilation etc should be provided.

Never wash food or utensils in wash hand basins or wash hands at a sink. This could spread bacteria.

- Work flow must include a well planned route for food & food handlers through food areas to safeguard food from delivery to finished product. It should also separate raw and cooked food and keep clean and dirty activities far apart .Storage area should be near delivery area.

FOOD SAFETY MANAGEMENT : A DOCUMENTED SYSTEM

- A documented food safety management system must be in place to show how you manage food safety hazards in your business
- You must write these procedures down, update them as necessary and retain them so they can be checked during food inspections.
- It helps you achieve a higher rating and meet the requirements of the law
- Training & retraining records must be kept.

**THANK YOU FOR YOUR
ATTENTION!!**