Food Safety Pt. 1

Theodora (Theo) Morille
Food Safety Menu: Part 1

Introduction
Food Safety Culture
Basic Principles of Food Safety
Foodborne illness & Microorganisms
Kitchen and Personal Hygiene
Food Safety Jeopardy
Food Safety Part 1: Learning Objectives

- Food Safety Culture and its role in producing safe food
- Microorganisms and foodborne pathogens
- The Main Food Safety Hazards
- Why Kitchen and Personal Hygiene is a precursor to Farm Food Safety Culture and its role in producing safe food
- How to use the tools in your kitchen to prevent foodborne illness
Be the first to unlock this phrase!!

19 1 6 5 6 15 15 4
19 20 1 18 20 19 23 9 20 8 20 8 5
6 1 18 13 5 18
Be the first to unlock this phrase!!

SAFE FOOD

STARTS WITH THE

FARMER
FOOD SAFETY CULTURE
NAME SOME EXAMPLES OF THE CULTURE IN YOUR REGION
FOOD SAFETY CULTURE:

GOES BEYOND POLICY AND SCIENTIFIC KNOWLEDGE

BEHAVIOR
MINDSET

DO THE RIGHT THING JUST BECAUSE
FOOD SAFETY CULTURE

Which statement does not reflect a food safety culture

A. All employees and owners are trained on Food Safety
B. All employee wash hands after using the bathroom
C. Hand washing is not necessary on the farm because we are always handling dirt
D. Raw manure is not used during harvesting.
WHAT IS FOOD SAFETY
FOOD SAFETY IS..
4 STEPS TO FOOD SAFETY

CLEAN

SEPARATE

COOK

CHILL
FOOD SAFETY HAZARDS

Biological

Physical

Chemical
Foodborne Illness & Microorganisms
The #1 cause of food poisoning is the improper cooking and storage of food. Poor hygiene comes in second.

The people at the highest risk of dying from food poisoning are very young children and the elderly.
Gastro-intestinal symptoms of food poisoning...

1. nausea
2. vomiting
3. diarrhea
4. abdominal pain
600 MILLION FOODBORNE DISEASES GLOBALLY

420,000 DEATHS

30% OF DEATHS OCCUR IN CHILDREN
WHO CAN GUESS WHAT THAT NUMBER IS FOR THE CARIBBEAN?

1 IN 49 or 142,000
MICROORGANISM
The Good
The Bad
The Ugly
GOOD MICROORGANISM
Bad Microorganisms
Ugly (dangerous) Microorganisms

- Hepatitis
- Salmonella
- Listeria
Campylobacter (kam′pi-lō-bak′ter)

The leading cause of food poisoning. Source: eating, or coming in contact with raw or undercooked chicken.

Washing hands and work surfaces is the best preventative for cross-contamination. Use hot water and soap, or better yet, a diluted bleach solution.
PATHOGENIC MICROORGANISM
Salmonella

The second leading cause of food poisoning, *Salmonella* is most often associated with eating raw or undercooked food such as: eggs or chicken.

Even eating raw cookie dough and cake batter can place you at risk, because they contain uncooked eggs.

Cooking destroys this bacteria, so fully cook food to eliminate all risk.
Ground Beef: IF the E.coli organism is living in the intestines of a healthy cow, and...IF the fecal matter inside these intestines touches the meat during the butchering process, and...IF you eat this meat without thoroughly cooking if first...

...then you can get E.coli poisoning.

Thorough cooking of the meat, until there is no pink remaining, kills the E.coli organism. Hamburger is the most common source of a large outbreak.

Meat is not the only source. Any food or liquid can become contaminated if it comes in contact with the infected fecal matter. Even sewage-contaminated flood waters can pose a threat.
Listeria monocytogenes

Listeriosis is often associated with consuming raw milk, soft cheeses, cold cut (deli) meats and sprout.

It is usually a mild illness for most people. However, it causes severe disease to fetus, leading to fetal death or pre-term labor.
Botulism... food poisoning caused by spore-forming bacteria.

The most common source of botulism is in low-acid canned foods.

1. NEVER USE FOODS FROM BULGING CANS

2. AVOID DEEPLY DENTED CANS, ESPECIALLY AT THE SEAM OF THE CAN

3. DISCARD FOOD THAT EXPLODES FROM A CAN WHEN OPENED

4. DON’T TASTE FOODS YOU SUSPECT MAY BE SPOILED

When in doubt, throw it out!
Staphylococcus Aureus...  
(better known as "staph")

Good hygiene of the food handler limits the spread of this food poisoning. This bacteria can be transferred from the skin, nose, and mouth to the food.
There is NO CURE for food poisoning!

DRINK FLUIDS. That is the first and most important step to recovery. Consult a physician if symptoms become severe or last longer than 12 hours.

Doctors can only help treat the symptoms. Do not induce vomiting. By the time you actually feel sick, the poisoning is past the stomach.

Barbara Swarthout
Food allergies
Food Safety

JEOPARDY!
TEST YOUR FOOD SAFETY IQ
Food Safety Jeopardy

Helen's Daughters Food Safety Jeopardy Pt.1 2022 Jeopardy Template (jeopardylabs.com)
Food Safety/Hygiene In the Home
How Many Issues Can You ID?
How Many Issues Can You ID?
4 STEPS TO FOOD SAFETY

CLEAN
SEPARATE
COOK
CHILL
Washing hands and work surfaces is the best way to prevent cross-contamination. Use Hot water and soap, or better yet, a diluted bleach solution.
Separate

Cross contamination The process by which bacteria are transferred from one area to another.
Cooking food thoroughly to a minimum core temperature of 74°C will ensure most bacteria is destroyed.
Reducing the temperature below 5°C slows the reproduction of microorganisms. Cold temperatures do not kill bacteria.
https://vimeo.com/79262317
GOOD PERSONAL HYGIENE

- Wash your hands regularly
- Especially after using the bathroom
- Cover any exposed cuts or wounds
- Do not prepare food when sick
- Shower or bathe at least 1X/day
- Clean Clothes
TEST YOUR FOOD SAFETY IQ
Food Safety Jeopardy

Helen's Daughters Food Safety Jeopardy Pt.1 2022 Jeopardy Template (jeopardylabs.com)
Food Safety Menu: Part 2

GAP
Produce Safety
Organic farming
Other Certifications
Food Safety Reference Material

THEODORA MORILLE
Chilling

The bacteria that cause food to deteriorate and lead to food poisoning rapidly reproduce around the temperature of 37ºC (body temperature). This is known as the ‘optimum temperature’ for bacterial multiplication.

The temperature between 5ºC– 63ºC is known as the ‘danger-zone’. Bacterial will multiply most rapidly within this temperature range.

Reducing the temperature below 5ºC slows the reproduction of micro-organisms.

Cold temperatures do not kill bacteria.
Cleaning

Cleaning worktops:
- always wash worktops before food preparation begins;
- wipe up any spilt food straight away;
- always sanitise worktops thoroughly after they have been touched by raw meat, including poultry or raw eggs.
- 
Poultry, raw milk, and untreated water have been the most commonly identified sources of Campylobacter outbreaks.
Key Take Away:

Food safety is an umbrella term that encompasses many facets of: Handling, Preparation, Storage of food to prevent illness and injury.
Key Take Away:

Food Safety, sustainable agriculture and Food Security are interrelated to ensure All people have access to enough safe food to lead productive lives.
Microorganisms are everywhere! Microorganisms are very small living things that they cannot be seen with the naked eye. Microorganism can be classified as “Good”, “Bad” and “Ugly”
Key Take Away:

Infants under age 1 should not be fed honey or any food containing honey.
Key Take Away:

Key symptoms of foodborne illness are: Stomach pain, Vomiting and Diarrhea
Key Take Away:

Washing your hands with soap and water frequently before & during food preparation is important to prevent foodborne illness.
Key Take Away:

Good personal hygiene practices help prevent the transfer of dangerous microorganisms to food.
Key Take Away:

Preventing microbial contamination is the best way to prevent disease and improve your health and that of your family and community.
Outbreak Investigation of Listeria monocytogenes – Hispanic-style Fresh and Soft Cheeses (February 2021)

CDC reported that seven people infected with the outbreak strain of Listeria monocytogenes have been reported.
Organic produce has tentatively been determined to be behind an E. Coli O157 outbreak.

Seven patients have been reported during April 22-May 1 time period,

All of the patients are younger than 15 years of age, and three are younger 5 years of age

Six of the children have been so sick they had to be admitted to hospitals.

This includes two children who developed a potentially life-threatening type of kidney complication called hemolytic uremic syndrome (HUS).
Foods that are commonly involved in norovirus outbreaks include:
• leafy greens (such as lettuce),
• fresh fruits

Most of these outbreaks occur in food service settings like restaurants. Infected food workers are frequently the source of outbreaks in food-service settings. Often by touching ready-to-eat foods, such as raw fruits and vegetables, with their bare hands before serving them.
**Clostridium botulinum**

**Signs & Symptoms:**
- Difficulty swallowing
- Muscle weakness.
- Double vision.
- Drooping eyelids.
- Blurry vision.
- Slurred speech.
- Difficulty breathing.
- Difficulty moving the eyes
The Honey Rule....

Infants under age 1 should not be fed honey or any food containing honey

WHY?

The spores C. botulinum spore can colonize the large intestine of babies and cause an infection

Symptoms
Muscle weakness, difficulty eating and breathing.
How does microbial contamination occur?
How does microorganisms grow?

- Time/Temperature
- Nutrients/Moisture
Chilling – the refrigerator

• Keep it at the right temperature (below 5°C).
• Keep the fridge door closed as much as possible.
• Store cooked food above raw food.
• Wait for food to cool down before it is placed in the fridge.
• Do not overload the refrigerator. If the fridge is full, the cool air will not circulate around the food.
• Food should be covered to prevent cross contamination and moisture loss.
• Regular maintenance of the fridge is important.
• Clean to remove spills and food deposits whenever they occur to prevent contamination of food.
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Chilling – the freezer

• Ensure the freezer is working at a temperature below -18 ºC.
• Do not place hot foods in the freezer or leave the door open for extended periods.
• Do not overload the freezer. Cold air needs to circulate around the food.
• Store food with a label showing the contents and the date. Food should be wrapped well to prevent it drying out. Only freeze food when at its best condition, to allow the food to last longer.