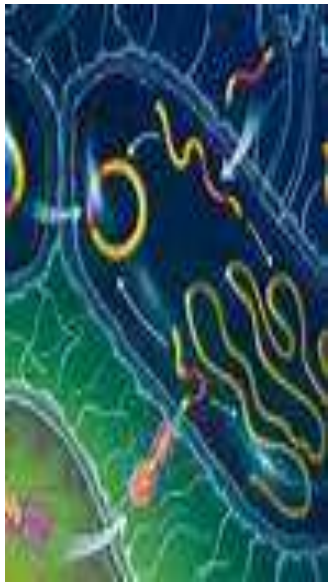
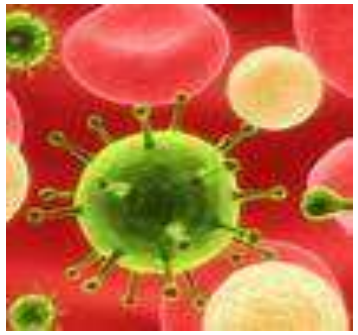


HFA 4C0
Safety in the Kitchen
An Introduction

Biological dangers in the kitchen = Bacteria

- Bacteria are biological dangers in the kitchen and cause harm to individuals just as slipping or falling can (physical dangers).



- Bacteria can be transferred to our food if safe handling of food is not taken. This is known as cross contamination (when bacteria from one object is transferred to another thereby making the new object contaminated as well).

What is Foodborne Illness?

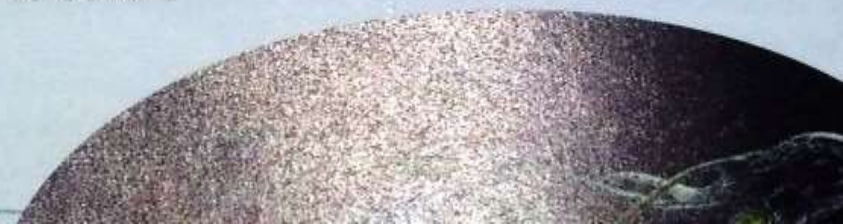
- Foodborne illness, often called food poisoning, occurs when a person gets sick by eating food that has been contaminated with bacteria, parasites, or viruses, also known as '**microbes**' and '**pathogens**'.
- Foodborne illness or food poisoning is often confused as the flu since they share similar symptoms. These include: stomach pain, diarrhea, nausea, chills, fever, and headache. Symptoms of foodborne illness can appear anywhere from thirty minutes to two weeks after an individual has come into contact with the bacteria, although it usually happens in the first 4-48 hours.

Food-borne Illnesses

- Different types of bacteria create different types of “foodborne illnesses”.
- Some different types of food-borne illnesses include:
- E. coli poisoning
- Botulism poisoning
- Clostridium perfringens poisoning
- Salmonellosis (otherwise known as Salmonella)
- Listeriosis
- Please reference page 16 of Nutrition and Health textbook for the sources of these food-borne illnesses

TABLE 1. COMMON FOOD-BORNE PATHOGENS

Pathogen	Source	Symptoms	Average Time for Symptoms to Develop
Clostridium botulinum	• canned (especially home-canned) foods • aged meats from marine mammals	• causes botulism (The *Clostridium botulinum* bacteria do not make people ill, but the poisons produced by the pathogen do.) • double vision, nausea, vomiting, fatigue, dizziness, headache, and dryness of the throat and nose • in extreme cases, symptoms may progress to respiratory failure and death	12 to 36 hours
Campylobacter	• undercooked poultry, beef, pork, lamb, or shellfish • raw vegetables • untreated water • unpasteurized milk	• causes campylobacteriosis • fever, headache, muscle pain, diarrhea, stomach pain, and/or nausea • may lead to Guillain-Barré Syndrome (auto-immune disorder)	2 to 5 days
Escherichia coli (E. coli)	• undercooked meat and poultry • raw vegetables and fruits • untreated water • unpasteurized milk	• range from minor flu-like symptoms to more severe stomach cramps, vomiting, and fever, and, eventually, kidney failure	1 to 10 days
Listeria	• milk products • vegetables • ready-to-eat fish and meat products	• causes listeriosis • flu-like nausea, vomiting, cramps, and fever • can result in a brain or blood infection	1 to 21 days
Clostridium perfringens	• foods high in protein or starch, such as cooked beans or gravies • more likely to be a problem in improperly handled leftovers	• gassy, watery diarrhea, cramps, and headache	6 to 24 hours
Salmonella	• raw poultry • raw and undercooked meats • unpasteurized milk • eggs • vegetables and fruits, if they have been in soil contaminated with animal waste	• causes salmonellosis • mild diarrhea, abdominal cramps, vomiting and fever, which can lead to severe dehydration	6 to 72 hours



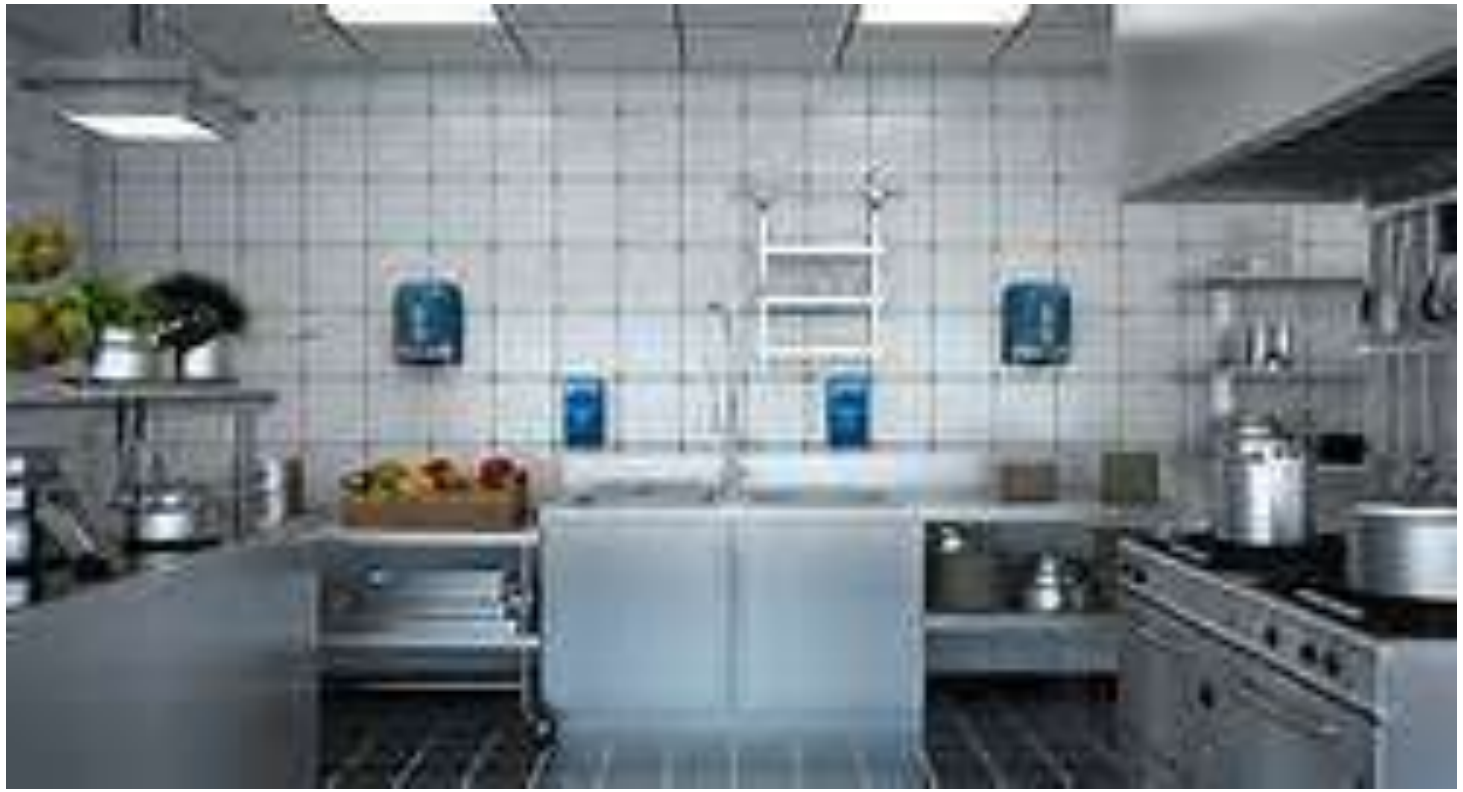
How do we prevent food-borne illnesses?

- Bacteria can be killed by thoroughly cleaning cutting boards, knives, and other equipment.
- Store foods properly.
- Thaw foods in the refrigerator.
- Wear clean clothes or aprons
- Avoid cross-contamination
- Clean surfaces with a bleach solution
- Wipe spills with paper towels
- Wash hands before handling food
- Cook foods thoroughly
- Replace dishcloths and wash sponges daily (we do not use sponges since bacteria grow very quickly on them).
- Handle meats, poultry, seafood, and eggs as if contaminated.

Personal Cleanliness Matters

- Keep long hair tied back
- Wear a clean apron
- Wear clean clothes
- No hats (unless specifically designed for food use)
- Cover cuts, sores on your hands with a band-aid and gloves before handling food
- Use separate spoons for tasting and stirring. Pour a little food from the stirring spoon onto the tasting spoon
- Do not lick your fingers (even if it is delicious and you usually do at home!)

Group Activity:
Organization matters in order to stay safe



Food Safety Case Studies (Think-Pair-Share)

- 1. Marie was making hamburgers. Her six year old daughter needed help with her braids. After wiping her hands on a tea towel, Marie helped her daughter braid her hair. She then finished making the hamburgers they would BBQ for supper that evening.
- What did Marie do wrong?
- What are three possible ways in which her actions could contribute to food poisoning?

Scenario #2

- Lee had to do six errands. To make the job as quick as possible, he planned a circle route as follows: pick up dry cleaning, buy groceries, get hair cut, buy stamps, register for tennis lessons, and pick up some books at the library for his vacation. It should only take 3 hours.
- What is going to cause problems with this scenario?
- What are two possible solution?

Scenario #3

- Darcy was putting the groceries away as soon as they returned from the store. She stashed the hamburger on the top shelf of the fridge. He placed the ice cream and orange juice into the freezer compartment. He put buns into a plastic bag, secured, and closed the bag, and left them on the counter. He washed the fresh lettuce, carrots, and grapes and placed them on the bottom shelf of the fridge, ready for quick healthy snacks.
- List two things that Darcy did correctly
- Describe one problem, and explain why it is a problem.

Scenario #4

- Pat was in a hurry. She rushed from weeding the garden, quickly rinsed her hands, cut the chicken into pieces and put them on the BBQ. After rinsing her hands again, she tore the lettuce into pieces and prepared the salad. Then she husked the corn and put it on to cook. She grabbed the dishcloth, still damp from the morning dishes and wiped the table. She grabbed a knife left on the counter, sliced the bread and put it in the basket on the table. Finally, she raced up the stairs to change because her guests would arrive any minute.
- Explain 2 possible sources of contamination
- Describe 3 improvements to Pat’s kitchen habits.