The *Guide to Food Safety* goes into much more detail about the science behind food safety including how bacteria grow and multiply and the different types of foodborne illnesses. We are focusing in this session on:

- The three types of hazards: biological, chemical, and physical
- Key factors that determine how disease-causing bacteria grows
- The major food allergens that impact people

Knowing how foodborne illness starts really emphasizes the importance of handling food safely at all stages of production.

The public trusts you to provide safe food. It’s up to you to make sure food handlers in your operation are following the practices and guidelines in place for keeping food safe.
Receiving and storing

**Frozen foods**—keep frozen foods solidly frozen and maintain frozen until used. Properly freezing foods will:

- Help maintain food quality
- Prevent the growth of spoilage and harmful microorganisms
- Allow foods to be stored for long periods of time without losing wholesomeness and quality

**Refrigerated foods**—maintain at or below 41°F (5°C)

- Raw shell eggs may be received and stored at or below 45°F (7°C) ambient temperature
- Fluid milk may be received at 45°F (7°C) or less, and it should be refrigerated immediately to cool it to 41°F (5°C) within 4 hours
- Shellfish may be received at 45° (7°C) or below

**Properly refrigerating foods will:**

- Prevent or slow the growth of harmful microorganisms
- Help retain quality and extend shelf life of the product
Detergents and cleaners improve the cleaning action of water to dissolve soil.

Types of detergents and cleaners include:
- Soaps
- Alkaline detergents
- Acid detergents
- Degreasers
- Abrasives
- Detergent sanitizers

- Are cleaning or purifying agents—solvents
- Improve the cleansing action of water to dissolve soil
- Must be stored away from food and food-contact surfaces

**Types of detergents include:**

**Soaps:**
- Are made by chemical reaction of alkali on fats or fatty acids
- Have limited use in food establishments

**Alkaline detergents:**
- Combine with fats to form soaps
- Combine with proteins to form soluble compounds
- Corrode aluminum, galvanized metal, and tin
- Are good general purpose cleaners

**Acid detergents:**
- Dissolve mineral deposits
- Are frequently used in food establishments
- Are categorized as
  - Inorganic (strong and corrosive)
  - Organic (mild and less corrosive)