

2.2: Good Personal Hygiene & 2.3: Preventing Hazards in the Flow of Food



Food Handlers & Contamination



Good **personal hygiene** is a key factor in the prevention of food-borne illnesses. Successful managers make personal hygiene a priority.

- **Food-handlers** can contaminate food in a variety of situations.
- Food-handlers are not just the people who prepare food.
 - **Servers** and even **dishwashers** are considered food-handlers.

Contamination Prevention

- To prevent food-handlers from contaminating food, managers must create personal hygiene policies.
 - These policies must address:
 - Personal cleanliness
 - Clothing
 - Hand care
 - Health.

Personal Cleanliness and Work Attire



Personal cleanliness is an important part of personal hygiene. Pathogens can be found on hair and skin that aren't kept clean.

- All food-handlers must bathe or shower before work and keep their hair clean.
- Dirty clothing may carry pathogens that can cause food-borne illnesses.
- To avoid spreading food-borne illnesses, food-handlers should:
 - Always cover their hair.
 - Remove aprons and store them in the right place when leaving prep areas.
 - Wear clean clothing every day.
 - Remove jewelry from hands and arms before preparing food or when working around prep areas.

Hand-washing



Hand-washing is the most important part of personal hygiene. Food-handlers must wash their hands before they start work.

- Food-handlers must also wash their hands after:
 - Using the restroom
 - Handling raw meat, poultry, or seafood
 - Touching the hair, face, or body
 - Sneezing, coughing, or using a tissue
 - Eating, drinking, smoking, or chewing gum or tobacco
 - Handling chemicals that might affect food safety
 - Taking out garbage
 - Clearing tables or busing dirty dishes
 - Touching clothing or aprons
 - Handling money
 - Touching anything else that may contaminate hands

Bare-Hand Contact/ Illness Work Requirements



- Restaurant and foodservice operations have a responsibility to ensure that their employees do not spread food-borne illnesses.
- Food-handlers who are sick can spread pathogens to food. Depending on the illness, they might not be able to work with food until they recover.

Bare-Hand Contact/ Illness Work Requirements

- Using bare hands to handle ready-to-eat food can increase the risk of contaminating it.
 - Gloves, tongs, and deli tissue can help keep **food safe** by creating a barrier between hands and food.
 - Change gloves frequently. **One product** use only.

Section 2.2 Summary



- Various personal behaviors of food-handlers can contaminate food.
- Hand-washing is the most important part of personal hygiene. It must be done at the right times in the right way.
- Personal cleanliness practices include bathing or showering before work, keeping hair clean, wearing clean clothes, removing jewelry from hands and arms, and keeping nails clean.
- Proper work attire includes always covering hair, wearing clean clothes, removing aprons and storing them in the right place after leaving the prep area, and removing jewelry from hands and arms.
- Using bare hands to handle ready-to-eat food can increase the risk of contaminating it.
- Employees should not work with or around food when they have a sore throat with a fever.

2.3: PREVENTING HAZARDS IN THE FLOW OF FOOD



purchasing



receiving



storing



preparing



cooking



holding



cooling



reheating



serving

Flow of Food

- The steps that an operation takes to buy, store, prepare, cook, and serve food is known as the **flow of food**.
- **All steps** in the flow of food pose risks to food safety.
- Understanding **where contamination can happen** in this flow and **how to prevent it** are critical tasks for restaurant and foodservice professionals.



Time-Temperature Abuse



Most food-borne illnesses happen because TCS food has been **time-temperature abused**.

- Food is time-temperature abused any time it is:
 - Stored at the wrong temperature during any part of the flow of food
 - Cooked to the wrong internal temperature
 - Held at the wrong temperature
 - Cooled or reheated incorrectly

Thermometers

Three types of thermometers are commonly used in operations—bimetallic stemmed, thermocouples, and thermistors.

- A **bimetallic stemmed thermometer** can check temperatures from **0°F to 220°F**.
 - Useful for checking both hot and cold types of food.



Thermometers

- **Thermocouples and thermistors** are also common in restaurant and foodservice operations.
 - Measure temperatures through a **metal probe and display them digitally.**



Thermometers

- **Infrared thermometers** measure the temperatures of food and equipment surfaces.
 - **Does not need to touch a surface** to check its temperature
 - Less chance for cross-contamination and damage to food.



Purchasing



- Restaurant and foodservice purchasers must make sure that their suppliers use good food safety practices along the supply chain.
- An operation's supply chain can include:
 - Growers
 - Shippers
 - Packers
 - Manufacturers
 - Distributors (trucking fleets and warehouses)
 - Local markets

Purchasing



All the food used in a restaurant or foodservice operation should come from approved, reputable suppliers.

- An approved food supplier is one that has been inspected by appropriate agencies and meets all applicable local, state, and federal laws.

Receiving

To keep food safe during receiving, an operation needs to have enough trained staff available to receive, inspect, and store the food.

- Use thermometers to check food temperatures during receiving.



Receiving

- The packaging of food and nonfood items should be intact and clean.
- Reject any items with packaging problems or with signs of pest damage or expired use-by dates.
- Poor food quality is sometimes a sign of **time-temperature abuse**.

Receiving



- Shellfish can be received either shucked or live.
 - Make sure that raw shucked shellfish are packaged in containers for one-time use only.
- Eggs must be clean and unbroken when you receive them.
- Milk and dairy products must be received at 41°F or lower unless otherwise specified by law.
 - Must be pasteurized and meet FDA Grade A standards.

Storage



Food can become unsafe if stored improperly. Store all TCS food at 41°F or lower, or at 135°F or higher.

- Rotate food in storage to use the oldest inventory first using the first-in, first-out **(FIFO) method.**

Storage & Cross-Contamination



CROSS CONTAMINATION:

The spread of pathogens from one surface or food to another.

The most basic way to prevent cross-contamination is to separate raw food and ready-to-eat food.

Storage



- Store refrigerated raw meat, poultry, and seafood separately from ready-to-eat food.
- Store raw meat, poultry, and seafood in coolers in top-to-bottom order based on the minimum internal cooking temperature of each food.
 - Meat cooked to **higher temperatures** is always stored beneath meat cooked to lower temperatures.

Preparation



Time-temperature abuse can happen during preparation. To avoid time-temperature abuse, remove from the refrigerator only as much food as can be prepared in a short period of time.

- Prepare food in small batches so that ingredients don't sit out for too long in the temperature danger zone.

Preparation: Freezing & Thawing



- Freezing & Pathogens
 - **Freezing doesn't kill pathogens.**
 - When food is thawed and exposed to the TDZ, any pathogens in the food will begin to grow.
- To reduce pathogen growth:
 - Never thaw food at room temperature

Cooking



Cooking food to the correct temperature is critical for keeping it safe.

- Every type of TCS food has a minimum internal temperature that it must reach.
 - Once reached, be sure that it stays at that temperature for a specific amount of time (dependent on the food item)

Cooking for High-Risk Populations

- Operations that primarily serve high-risk populations such as nursing homes and day-care centers, cannot serve certain items:
 - **Raw seed sprouts**
 - **Raw or undercooked eggs**
 - **Raw or undercooked meat or seafood**

Holding

If cooked food isn't served immediately, it must be kept out of the temperature danger zone by cooling it quickly, reheating it correctly, and/or holding it correctly.

- **To hold TCS food safely:**
 - **Hold hot food at 135°F or higher**
 - **Hold cold food at 41°F or lower**

Time-Temperature Abuse in Holding Food

- Food has been time-temperature abused when it remains at 41°F to 135°F
- The longer food stays in the temperature danger zone, the more time pathogens have to grow.
- If food is held in this range for FOUR or more hours, throw it out.

Cooling

- **Cool TCS food from 135°F to 41°F or lower within six hours.**
 1. Cool food from **135°F to 70°F within 2 hours**
 2. Then cool it to **41°F or lower in the next 4 hours**

Reheating

- If food-handlers plan to **reheat** leftover or previously prepared TCS food so that it can be held for service:
 - Must heat the food to an **internal temperature of 165°F**
 - The food needs to go from storage temperature to **165°F within two hours** and then **stay at that temperature for 15 seconds**.

Flow of Food Review

Flowcharts for food should include the following:

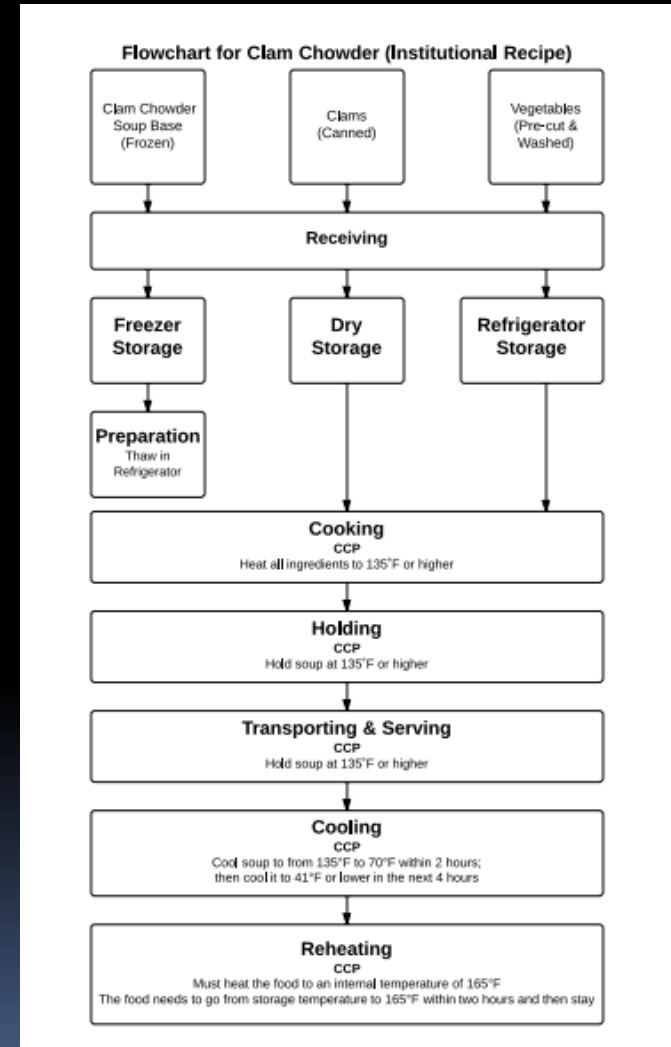
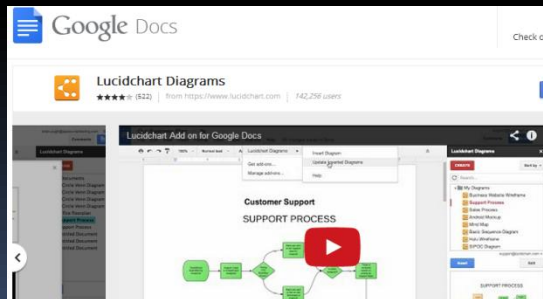
- Receiving
- Storage
- Preparation
- Cooking
- Holding
- Transporting & Serving
- Cooling
- Reheating

Critical Control Points

- A flowchart representing the flow of food should contain Critical Control Points (CCPs):
 - The points in a process where identified hazard(s) can be prevented, eliminated, or reduced to safe levels.

Flow of Food Example

- [Click HERE for full page version](#)
- Created using www.lucidchart.com
 - Available as a Google Doc Add-On



Flow of Food Lab

- Select a recipe to prepare in class that includes frozen, dry, & refrigerated products.
- Approve the recipe with your instructor
- Complete the on-line grocery order
- Begin a recipe template in Google Docs
 - Share with your group members; we will be adding to this in an upcoming lesson
- Use the LucidChart Google add-on to create a flowchart for your recipe.