

Section 4: Safe Food Handling

What is safe food handling?

Controlling the quality of donated food is a complex issue.

There are at least four phases of control that may affect food quality.

1. Original manufacturing - includes all processing and handling by the original and subsequent manufacturers.
 - ◆ Handling of raw product
 - ◆ Processing
 - ◆ Cooking
 - ◆ Canning
 - ◆ Packaging
 - ◆ Refrigeration
 - ◆ Storage
 - ◆ Transportation
2. Secondary preparation and storage of food – handling of food by your donor and could include:
 - ◆ Refrigeration
 - ◆ Storage
 - ◆ Transportation
 - ◆ Preparation
 - ◆ Cooking
 - ◆ Holding (for example: fried chicken from a grocery deli)
3. Handling or preparation of food at the food program
 - ◆ Refrigeration
 - ◆ Storage
 - ◆ Repackaging
 - ◆ Preparation (cutting fruits or vegetables or cooking any product)
4. Handling of food by the recipients of food from your food program.
 - ◆ Refrigeration
 - ◆ Storage
 - ◆ Handling
 - ◆ Cooking

While the first three of these phases are regulated and inspected to some degree, home use is obviously not controlled.

Consumers may or may not know proper handling and storage procedures. They are unlikely to have critical information on the age and condition of the food they receive. The food program may not know this either.

Because all of these stages provide opportunities for mishandling (and thereby for bacterial growth) food programs must be especially careful in how they handle food.

Ensuring a safe food supply at food programs involves three steps.

- Step 1: Assessment of food age, packaging and general condition. Information on risk assessment can be found in Section 3 of this manual.

- Step 2: Proper handling procedures. Information about safe handling is provided in this manual.
- Step 3: Safe storage. Facility specifications for food programs are covered in Booklet 2 of this series.

Storage temperatures are covered in both Section 2 and Section 4.

Personnel Practices

One of the most critical areas of control over food safety is personnel practices. Microorganisms such as *Staphylococcus aureus* bacteria and the Hepatitis Virus are easily transferred from workers to food. Several points of control for personnel practices are listed below.

Worker storage and break areas

The first step in creating a safe worker environment is to designate worker storage and break areas. A designated storage area should be big enough to provide room for all purses, backpacks, sunglasses, personal dishes, etc. The storage area should be separated from all food, dish and single-use products (like paper cups or napkins). A worker storage area might be a cabinet or row of coat hooks with shelves above or below. All personal effects should be stored in this area.

A break area should also be designated. This area should be away from all food preparation and storage. A break area might include a table and chairs in a remote corner of the kitchen or storage area. If your food program is not entirely non-smoking, smoking should be confined to the break area. **In no case should eating, drinking, gum chewing, or smoking be allowed in food preparation areas.**

Personal Hygiene

Since bacteria are naturally present on hands, mouths and bodies, worker hygiene is a critical step in food protection.

Workers should be:

1. Free of any symptoms of disease that can be transmitted through food (someone with cancer should be able to work with food if they don't have a condition that is transmittable through food).
2. Clean (hair and bodies) with nails clean, trimmed short and filed.
3. Free of stray hairs. Long hair should be pulled back or covered.
4. Dressed in clean clothes (and aprons if provided) with pockets empty of items that could fall into food.
5. Wearing minimal jewelry.
6. Wearing clean disposable gloves when they have cuts, scrapes or infections on their hands.
7. Wearing clean disposable gloves whenever they are directly touching food that will not be cooked before use.
8. **Never allow a sick volunteer or employee to work with food.** Guidelines for restricting sick workers can be found in Section 5 of this Manual.

Hand washing

Hands should be washed and gloves changed between each task.

Washing is especially important:

- ◆ Before handling food (after any other activity or when first entering the food program).
- ◆ After handling trash containers.
- ◆ After using the bathroom or changing diapers.
- ◆ After petting animals.
- ◆ After coughing, sneezing or nose blowing.
- ◆ After smoking.
- ◆ After handling any toxic products or poison.
- ◆ After handling contaminated food.
- ◆ After handling raw meat, poultry or eggs.
- ◆ After handling pencils, paper, money, etc.

- ◆ After touching the face or any part of the body.
- ◆ After touching the floor or a contaminated surface.

The best method for hand washing is to:

- ◆ Use continuously running warm water.
- ◆ Moisten hands well and obtain soap from the dispenser.
- ◆ Lather every hand surface, including the areas between fingers.
- ◆ Fingers, backs of hands, wrists and under fingernails.
- ◆ Rub vigorously for at least 20 seconds.
- ◆ Clean nails with a sanitized brush. Also wash rings.
- ◆ Hold hands downward and rinse well.
- ◆ Dry hands with a paper towel.
- ◆ Turn off the faucet using the paper towel instead of bare hands.

In order to facilitate effective hand washing, hand wash sinks should be provide with:

1. A nailbrush that is frequently sanitized.
2. Liquid soap in a dispenser that sits on the side of the sink or is mounted on the wall.
3. A paper towel dispenser that is mounted near the hand wash sink. A towel roll holder such as the one used in home kitchens is acceptable.

Some workers may find that wearing gloves or frequent hand washing worsens chapped or cracked skin. One remedy for this is a medicated anti-bacterial lotion or use food service gloves that do not contain laytex.

Worker Habits

While engaged in food preparation, it is important that workers follow the guidelines below.

1. Keep hands away from face, hair or clothing. These surfaces naturally harbor bacteria that can rapidly multiply in food.
2. Turn their face away from food and cover their mouth and nose with a tissue if they sneeze or cough. The tissue should be thrown away, hands washed and disposable gloves changed immediately after sneezing or coughing.
3. Maintain minimal hand-to-food contact, especially when handling ready-to-eat food. Clean (sterilized) utensils or clean gloves should be used instead of hands.

Exercise: Floor Plan

On a blank piece of paper, diagram your food program. If worker areas are not currently designated, locate a place for a break area and for a worker storage area. Also show where the hand washing sink is located and how it is reached from work areas.

When you've drawn the floor plan, use arrows to show how the food flows from receiving to storage to repackaging, etc.

Safe Food Handling

Safe food handling procedures fall into four categories: temperature control, storage, preventing cross-contamination, and preparation.

Temperature Control

Potentially hazardous foods (such as meats, dairy-based products and cooked foods) should never be held between 40°F and 140°F. These temperatures are ideal for bacterial growth. Even foods that will be cooked before consumption may be dangerous when held for long periods of time at unsafe temperatures. Bacteria may produce toxins that are not destroyed by high temperatures.

Food programs seldom deal with hot foods. If your food program conducts cooking demonstrations or handles restaurant food, remember that there are important differences between handling raw and processed perishable foods. If your food program distributes restaurant leftovers, call your county health agency for more information and to get a permit.

In general, remember that:

- ◆ Cooked foods must be held at or above 140°F or quickly cooled to <40°F (see guidelines below).
- ◆ Food which is reheated must be heated to and remain at or above 165°F.
- ◆ Warm food that is being stored should be rapidly cooled. The following guidelines apply to all food that requires refrigeration.
- ◆ Cooled foods must remain at or below 41°F. Refrigeration units should be set between 32°F and 40°F.
- ◆ Foods that are frozen should remain between 0°F and -10°F.

Foods may be cooled quickly in the following ways:

- ◆ Place it in a shallow container (with a food depth of 2 inches or less) and put the uncovered container into the refrigerator or freezer.
- ◆ Food should remain uncovered at least 12 hours or until fully cooled (check with a calibrated probe thermometer).
- ◆ Pack refrigerators and freezers so that air can circulate
- ◆ An ice bath can also be used to cool foods. Place the container in ice and stir until food is at 41°F, and then place it in the refrigerator.
- ◆ Another method is to immerse the container in ice and use an ice paddle to stir food until it is at 41°F, and then place it in the refrigerator.

If your agency experiences a power outage, check to see if frozen food is still frozen and that refrigerator temperatures are in the acceptable range (<41 °F). If so, keep refrigerator and freezer doors closed. Refrigerated food will last for a few hours without power. A closed, well-packed freezer will last for at least 1 day. Adding dry ice or block ice to a refrigeration or freezer unit may extend this time. It is important, however, that water not be allowed to drip onto food packages or pool in the bottom of the unit.

Foods that are thawed before repackaging should be thawed in the refrigerator or under continuously running, potable cold water. Thawing food should not raise the temperature above 40°F.

Freeze fresh meat, poultry or fish immediately if it will not be used within a few days.

Be discriminating. If you can't tell or remember when a food was refrigerated, or if the food shows any signs of spoilage, throw it out.

HACCP food procedures (Section 5) recommend that food not remain out of temperature for more than 2 hours. Time out of temperature includes all time for transportation, preparation, cooking and cooling. Since you cannot account for all of the time on most food you receive, never allow food to remain out of temperature unless you are actively working on it. In no case should you allow that time to exceed 2 hours. If you are packaging food over a period of time, place food back in the refrigerator or freezer periodically during the process rather than waiting until you are finished with the whole project.

In order to protect perishable foods that are donated or purchased:

1. Pick up perishable foods last.
2. Always transport perishable foods in a refrigerated vehicle or in an ice chest. Check the temperature when the food is picked up and when it is dropped off at the food program.
3. Even short stops during warm weather or in a heated car can raise the temperature of foods enough to encourage bacterial growth.
4. Upon arrival at the food program, unload and store perishable foods first.

Calculating Time-out-of-Temperature

The longer food remains out of temperatures between 40°F and 140°F, the more likely that bacteria will multiply to a dangerous level. Because donations contain unknown variables, food at food programs should not remain out of temperature any longer than absolutely necessary and never longer than 2 hours. An example of calculating time-out-of-temperature is given below.

A large grocery store calls their local food program to offer them 6 containers of chicken that were not purchased from the deli yesterday. A volunteer is dispatched to pick up the chicken. He arrives at the store at 10:00 a.m., picks up the chicken and then proceeds to two other stores to pick up additional donations.

He arrives at the food program at 11:15 and places all of the donations at the entrance door. Another volunteer stocks the food, putting the chicken in the refrigerator at 11:40.

At 1:00, a third volunteer opens the chicken and repackages it into smaller zip-lock bags. The small zip-lock bags are placed in the refrigerator at 1:35.

The zip-lock bags are then placed in food baskets at 1:50 and passed out to clients between 2:00 and 2:30.

TOTAL TIME OUT-OF-TEMPERATURE: 2 HOURS AND 55 MINUTES

The two hour time limit could have been met if perishable items were picked up last and stored first.

Dry Storage

Information about designing storage areas is contained in Section 2 of this manual. All stored foods should be maintained at proper temperatures, covered, labeled, and rotated. Proper storage reduces the chance of rodent or insect infestation.

Temperatures

Optimal temperatures in dry storage rooms are **between 50°F and 70°F**. Temperatures may be lower as long as the food doesn't freeze. Freezing temperatures, and temperatures above 70°F, degrade food quality.

Containers

Food should be stored in containers that are easily cleaned, non-absorbent, durable and smooth. Airtight containers are preferable. Bulk foods should be stored in food-grade plastic containers or in containers with food-grade liners. Food grade liners are usually clear, while trash can liners are dark colors.

Labeling

Containers in freezers, refrigerators and dry storage should be labeled with the name of the item and the date it is placed in storage. Foods can be labeled inexpensively with masking tape and a permanent marker. It is especially important that cleaning solutions be labeled and stored away from food, dishes or single-use products. Labeling food products will help you decide which food is unsafe and should be discarded. It will also help you analyze how rapidly food turns over within your food program.

FIFO (First In First Out) or OIFO (Oldest In First Out) and Storage Times

Stored foods should be rotated so that the oldest foods are used first. For an emergency food program, this doesn't always mean 'first in, first out' since foods are donated with a variety of expiration dates and shelf life. Always aim for the oldest foods, or foods closest to expiration, to go out first. Any foods that appear moldy or spoiled should be discarded immediately and disposed of in such a way that they cannot be re-used. Discarded food may be donated to pig farmers or local composting groups. Any food that is being placed in the garbage should first be denatured with bleach or ivory dish soap.

Any salvaged, refrigerated food or food left over from a cooking demonstration should be discarded after 3 days. For more information on assessing food safety, see Section 3 of this manual.

“Take out the papers and the trash...”

Preventing Cross-Contamination

Cross contamination occurs when clean fresh food, hands or utensils come into contact with bacteria from soiled hands, clothing, cleaning materials, food processing equipment, work surfaces, utensils, or dishes, etc. It can also occur when juices from raw meat, poultry or fish are exposed to other raw or cooked foods. To prevent cross-contamination:

1. Wash hands frequently. Wear gloves when handling ready-to-eat food. Change gloves after handling meat and before handling ready-to-eat food.
2. Wash and sanitize kitchen towels and cloths frequently.
3. Dishcloths are preferable to sponges since they are easier to clean. Use separate cloths for cleaning dishes and work surfaces.
4. Keep raw meat, poultry and fish away from other foods.
5. Store meats on trays on the lowest shelf of the refrigerator.
6. Wash and sanitize cutting boards, knives and utensils between uses, especially after processing meat products.
7. Never use the same utensil on different foods.
8. If possible, use separate cutting boards for meats, other raw foods and cooked foods. Color-coding the boards is a good way to keep uses separate.
9. Keep food preparation areas and surfaces clean and sanitized. See Booklet 2 for information on cleaning and sanitizing work areas.



Food Preparation

Vegetables that may not be washed before consumption should be washed and agitated under cold water before distribution. If necessary, a brush may be used to dislodge dirt. Sinks should be cleaned and sanitized before being used to prepare any food items.

Bulk bread items which are not individually wrapped (such as bagels) should be protected from contamination by having a food program worker dispense them or by providing utensils or waxed paper squares to food recipients. A person reaching into a large container to grab a piece of bread will invariably touch other pieces of bread as well. Since you are unable to determine whether a client's hands are clean and free of disease, allowing them to touch food that you will distribute to other persons leaves you liable.

Planning Safe Food

Clients without adequate refrigeration and cooking facilities should be provided with food that can be safely left out at room temperature for several hours. In deciding which foods to include, remember that bacteria do not grow well in foods that are high in acid or low in moisture.

The following items are examples of good foods to include in a transient package:

- ◆ Nuts, peanut butter
- ◆ Crackers
- ◆ Bread, cookies, cakes and fruit pies (no custard-type items or cheesecakes)
- ◆ Tortillas
- ◆ Jam, honey, syrup, candy
- ◆ Butter, margarine and cooking oil
- ◆ Dry cereals
- ◆ Dry powdered milk and bottled water

- ◆ Bottled or canned fruit juices
- ◆ Raw, canned or dry fruit
- ◆ Raw vegetables
- ◆ Canned meats or other canned goods which do not require preparation
- ◆ Dried processed meats (salami, pepperoni, jerky, etc.)
- ◆ Pickles, relishes, mustard, ketchup
- ◆ Dry or hard cheeses (cheddar, parmesan, etc.)
- ◆ Potato chips and other packaged snack foods
- ◆ Sealed pudding packs

Section 4 Self Test

1. In what cases is eating or smoking allowed in a food preparation area?
 - a. In between tasks
 - b. On very cold days
 - c. Always
 - d. Never

2. When should disposable gloves be worn?
 - a. When working on food that will not be cooked or washed again.
 - b. Always.
 - c. When a worker has cuts, scrapes or infections on his or her hands.
 - d. a and c

3. How long should workers scrub hands when washing?
 - a. Under 10 seconds
 - b. At least 20 seconds
 - c. For 1 minute
 - d. Any amount of time

4. How long may food be out of temperature and still be guaranteed safe to eat?
 - a. Less than 2 hours
 - b. Between 1 and 3 hours
 - c. Less than 6 hours
 - d. Never