

FOOD SAFETY



Fast Facts for The Food Service Professional



DELAWARE HEALTH
AND SOCIAL SERVICES

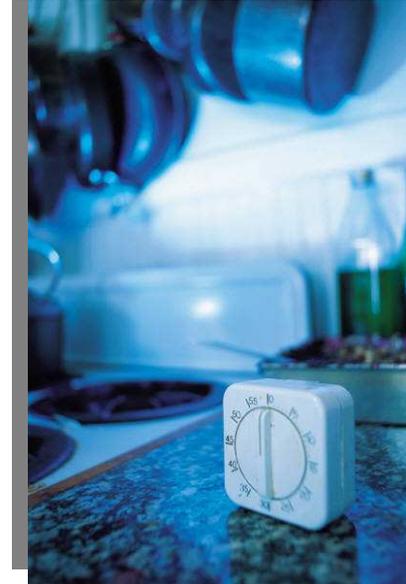
Division of Public Health

NO Smoking

NO Drinking

NO Eating

**In Food Preparation or
Warewashing Areas**



State of Delaware Food Code, Chapter 2

Employee Handwashing

1. Wet hands with warm, running water
2. Apply hand cleanser
3. Rub hands for at least 20 seconds
4. Clean under fingernails and between fingers
5. Rinse hands thoroughly under running water
6. Dry hands



HANDWASHING

One of the most important things you can do to prevent the spread of foodborne illnesses is to wash your hands. In fact, the Food Code requires that all food employees keep their hands and exposed portions of their arms clean. By frequently washing your hands, you wash away germs that you have picked up from other people or from contaminated surfaces, and prevent the spread of diseases.

When should you wash your hands?

You should wash your hands often. Probably more often than you do now because you can't see germs with the naked eye or smell them, so you do not really know where they are hiding. Food employees should always wash their hands:

- After using the toilet room;
- After touching bare human body parts other than clean hands and clean, exposed portions of arms;
- After caring for or handling support animals or aquatic animals such as fish in aquariums, shellfish or crustaceans in display cases;
- After coughing, sneezing, using a handkerchief or disposable tissue; using tobacco, eating, or drinking;
- After handling soiled equipment or utensils;
- During food preparation, as often as necessary to remove soil and contamination and to prevent cross contamination when changing tasks;
- When switching between working with raw food and working with ready-to-eat food; and
- After engaging in other activities that contaminate the hands, such as clearing tables, handling dirty dishes or taking out the trash.

What is the correct way to wash your hands?

It is estimated that one out of three people do not regularly wash their hands, even after using the restroom. The following four steps will help you make sure your hands are properly washed:

1. Wet your hands under warm, running water and apply a liquid, powder or bar soap.
2. Rub your hands vigorously together and scrub all surfaces. Clean under fingernails and between fingers.
3. Continue scrubbing for 20 seconds or about the length of a little tune, like "Happy Birthday to You." It is the soap combined with the scrubbing action that helps dislodge and remove dirt and germs.
4. Rinse thoroughly under running water and dry your hands using an appropriate method, i.e., individual disposable towels; a continuous towel system that supplies the user with clean towels; or a heated-air device.

SAFE COOKING TEMPERATURES

All food products containing raw animal foods such as eggs, fish, meat, poultry or any combination of these items must be sufficiently cooked until all potentially hazardous germs are destroyed. The minimum internal temperature at which pathogens are destroyed depends upon the type of food being cooked. To ensure that the food products being cooked are safe for human consumption, use the following chart to determine doneness. Remember to use a food thermometer to check the internal temperature of the food before serving.

Food Item	Minimum Temperature
Fruits and vegetables cooked for hot holding	135°F
Beef and pork roasts, beef steaks, veal, lamb, and	145°F
Eggs cooked for immediate service	145°F
Fish and foods containing fish	145°F
Pork, including ham, bacon and injected meats	145°F
Eggs cooked for later service	155°F
Ground or flaked meats, including hamburger, ground	155°F
Poultry and poultry products, including stuffing, stuffed meats, casseroles, and dishes combining raw	165°F
Stuffed fish	165°F

Microwave Cooking

When cooking with a microwave oven, the Food Code requires that all potentially hazardous foods containing meat, poultry, fish or eggs shall be cooked to a minimum temperature of 165°F. In addition, these foods shall be cooked according to the following standards:

1. Rotated or stirred throughout or midway during the cooking process to compensate for uneven distribution of heat;
2. Covered to retain surface moisture;
3. Heated to an internal temperature of at least 165°F in all parts of the food; and
4. Allowed to stand covered for two minutes after cooking to obtain temperature equilibrium.

Consumer Advisory of Raw or Undercooked Foods

If a food establishment intends to sell raw or undercooked animal foods in a ready-to-eat form, the establishment shall inform the consumer of the risks associated with eating these foods with the following consumer advisory. Note: Specific language may vary, subject to approval by the Division of Public Health.

“Thoroughly cooking foods of animal origin such as beef, eggs, fish, lamb, pork, poultry, or shellfish reduces the risk of foodborne illness. Individuals with certain health conditions may be at higher risk if these foods are consumed raw or undercooked. Consult your physician or public health office for further information.”

USING A FOOD THERMOMETER

The Food Code requires that food establishments have readily available for use some type of food temperature measuring device to ensure that food is being properly cooked. A food thermometer is used to measure the internal temperature of foods to ensure that a safe temperature is reached and that harmful bacteria like Salmonella and Escherichia coli O157:H7 are destroyed. You should use a food thermometer whenever you prepare hamburgers, poultry, roasts, chops, egg casseroles, meat loaves, and other combination dishes.

Types of Food Thermometers

There are several types of food thermometers available for use, the most common being digital and dial metal stem thermometers. All food thermometers should be capable of measuring temperatures from 0°F to 220°F ($\pm 2^\circ\text{F}$).

Digital thermometers (or “thermistors”), available in many kitchen supply and grocery stores, provide a digital readout panel on top of a long metal stem. Digital thermometers are battery powered and need to be turned on and off. The internal temperature of the food being checked is registered in about 5 seconds. Digital thermometers should be placed in food at the end of the cooking time to check for final cooking temperature. The sensor is located in the tip of the probe, making it ideal for measuring temperatures in thin foods, such as hamburgers and chicken breasts. Digital thermometers are not oven-safe and should never be immersed in water.

Dial thermometers are also available in most kitchen supply and grocery stores. Dial thermometers have a range of temperatures featured on a round dial on top of a long metal stem. Large dial thermometers are oven-safe and good for large roasts and whole poultry. Smaller instant-read dial thermometers are not designed to stay in the oven, but are used to spot-test food during and at the end of the cooking time. The thermometer senses the internal temperature of the food along the stem from the tip to about 2 inches up the stem. The temperature indicated on the dial is an average of the temperatures along the sensing area.

How to Use a Food Thermometer

To correctly measure the internal temperature of the food being cooked, all food thermometers must be properly inserted into the item being checked.

- Dial thermometers should have the stem inserted straight into the food or at an angle about 2 inches into the thickest part of the food without touching bone or fat. The temperature should register in about 15 seconds. Thin foods such as hamburgers, chicken breasts or pork chops may require insertion in the side.
- The stems of digital thermometers should be inserted about ½-inch or less straight into the center of the thickest part of the food or at an angle without touching bone or fat. The temperature will take about 5 seconds to register. Digital thermometers are ideal for thin hamburgers, chicken breasts, and smaller pieces of meat or poultry.

Note: Instant-read dial and digital thermometers are designed for quick temperature reading and should not be placed into food during cooking. All thermometers should be calibrated periodically for accuracy following the manufacturer’s directions.

HOT AND COLD HOLDING TEMPERATURES

All potentially hazardous foods, except those prepared for immediate consumption by a patron, shall be maintained in such a fashion as to prevent the growth or development of bacteria. When holding foods for service, such as on a buffet line, always remember to keep hot foods hot and cold foods cold. Hot-holding equipment must be able to keep foods at a temperature of 135°F or higher, and cold-holding equipment must be capable of keeping foods at a temperature of 41°F or colder.

Hot-Holding Guidelines

When holding hot foods for service, observe the following guidelines:

- Stir the food at regular intervals to help distribute heat evenly throughout the food.
- Keep the food covered as covering will help retain heat and eliminate potential contaminants from falling into the food.
- Use a food thermometer to measure the food's internal temperature every two hours.
- Discard any hot food after four hours if it has not been maintained at a temperature of 135°F or higher.

Other safety precautions regarding hot-holding foods include never using hot-holding equipment to reheat foods. Foods to be reheated should first be heated to an internal temperature of 165°F and then transferred to the hot-holding equipment. Also, never mix freshly prepared food with foods being held for service as this practice can result in contaminated foods.

Cold-Holding Guidelines

When holding cold foods for service, the following guidelines can help prevent food-related illnesses:

- Protect all foods from possible contamination by covering them or using food shields.
- Use a food thermometer to measure the food's internal temperature every two hours; take corrective action whenever the temperature of a cold food item goes above 41°F.
- Never store food items directly on ice. All food items, with certain exceptions, should be placed in pans or on plates when displayed. Ice used on a display should be self-draining, and all pans and plates should be sanitized after each use.

Whenever you are dealing with questionable hot and cold-holding practices, always resolve the issue in favor of food safety. It is better to discard potentially hazardous foods than risk your customer's health or safety. One way to avoid discarding too much food is to prepare and cook only as much food as you will use in a short period of time.

Always Remember!

Use a thermometer to check foods...

Keep Hot Foods Hot!

**Maintain hot foods at a
temperature of 135°F (57°C) or higher**

Keep Cold Foods Cold!

**Maintain cold foods at a
temperature of 41°F (5°C) or lower**



COOLING METHODS

The Food Code requires that all cooked foods not prepared for immediate service shall be cooled as quickly as possible to eliminate the possibility of bacteria development. There are two methods to cool potentially hazardous foods: the two-stage method (preferred) and the one-stage method.

The two-stage method reduces the cooked food's internal temperature in two steps. The first step is to reduce the temperature from 135°F to 70°F within two of preparation and from 70°F to 41°F or colder within an additional four-hour period. Total cooling time should never exceed six hours.

The one-stage method is designed to reduce the cooked food's internal temperature from 135°F to 41°F or colder within four hours of preparation. This method should only be used if the food is prepared from ingredients at ambient temperature, such as reconstituted foods and canned tuna.

When deciding how best to cool potentially hazardous foods, keep in mind the following factors:

- The size or amount of food being cooled;
- The density of the food – a broth is less dense than a casserole; and
- The container in which the food is being stored – shallow pans cool foods faster than deep pans.

In order to facilitate the rapid cooling of cooked foods, the following methods are recommended by the Food Code:

- Placing the food to be cooled in shallow pans;
- Separating the food to be cooled in smaller or thinner portions;
- Using rapid cooling equipment, such as 'blast chillers';
- Stirring the food to be cooled in a container placed in an ice bath;
- Using containers that facilitate the transfer of heat;
- Adding ice as an ingredient to the cooked food; or
- A combination of the above methods.

The most important thing to remember about cooling foods is that the temperature of all cooked foods should be reduced to 41°F or colder as quickly as possible. The cooling time, however, should never exceed the maximum time allowed for the selected method (either four hours for the one-stage method or six hours for the two-stage method). Simply placing a cooked food item in a refrigerator to cool may not be sufficient to reduce the threat of bacterial growth.

In addition, a warm or hot food item placed into a refrigerator may actually raise the temperature inside the unit and jeopardize the safety of other stored foods. Once the food item has been properly cooled, it should be stored properly – covered and labeled with the date the product was prepared. When preparing foods using cooked ingredients, always use the older products first.

THREE COMPARTMENT SINKS

All food establishments that do not have automatic warewashing equipment shall have a sink with at least three compartments for manually washing, rinsing and sanitizing all equipment, utensils and tableware. The compartments of the sink shall be big enough to accommodate the largest cooking equipment and utensils, such as pots and pans.

A properly designed sink area shall have areas for scraping or rinsing food into garbage containers and drainboards to hold both soiled and clean items. The following steps will ensure that all equipment, utensils and tableware items are properly cleaned and sanitized:

1. Rinse, scrape or soak all items before washing.
2. Wash items in the first sink in a detergent solution. Use a brush, cloth or scrubber to loosen and remove soil. The water temperature in the first compartment should be at least 110°F (use a thermometer to check the water temperature). Replace the detergent solution when the suds are gone or when the water appears dirty.
3. Rinse the washed items in the second compartment by either immersing them in clean rinse water or by spraying them. Make sure all traces of food and detergent are removed. The water temperature in the second compartment, too, should be a minimum of 110°F.
4. To sanitize the washed and rinsed items, immerse them in hot water contained in the third compartment. If you are going to use a hot water rinse, the water temperature must be at least 171°F and the items must remain submerged for a minimum of 30 seconds. If you use a chemical sanitizer, the sanitizer must be mixed at the proper concentration (follow the manufacturer's directions to assure the proper concentration).
5. All washed, rinsed and sanitized items should be placed on a clean drainboard to air dry.

It is important to realize that all food equipment and utensils must be properly cleaned and sanitized. While cleaning will remove dirt and particles left on the surface, sanitizing is necessary to reduce the number of bacteria on the surface to safe levels. In addition to properly washing, rinsing and sanitizing food preparation equipment and utensils, all surfaces which come into contact with food, such as countertops, food preparation areas and buffets, should be regularly cleaned to prevent the spread of bacteria and eliminate the possibility of cross-contamination. All surfaces that come into contact with food should be washed, rinsed and sanitized:

- After each use.
- When you begin working with another type of food.
- Anytime you are interrupted during a task and the tools or items you have been working with may have become contaminated.
- At four-hour intervals if the areas or items are in constant use.

Proper Procedures for Manual Dishwashing

1. Wash

2. Rinse

3. Sanitize

4. Air Dry Only



State of Delaware Food Code, Chapter 4

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For further information, please contact the
Environmental Health Field Services office nearest you:



New Castle County	(302) 995-8650
Kent County	(302) 744-1220
Sussex County	(302) 856-5496
Office of Food Protection	(302) 744-4546

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