**Disclaimer: This document is a guidance document. Some of this information may not be applicable to certain food procedures. Please be aware that food prepared at home should not be served at “potluck” events that will be charging some form of fee to participate in that event. If there are any questions, please contact the Environmental Health & Safety Office.**

**Definitions**

**Cleaning** – A process which will remove soil and prevent the accumulation of food residues which may decompose or support the growth of disease or nuisance causing organisms and/or the production dangerous toxins.

**Cross-Contamination** - The transfer of disease causing microorganisms from a contaminated surface to a previously clean disinfected surface.

**Disinfectant** – A substance approved and registered by the Environmental Protection Agency (EPA) to kill germs associated with surfaces and objects that may become contaminated during food handling.

**Disinfecting** – A process to control disease causing microorganisms and reduce food spoilage. Cleaning is effective in removing some germs and waste products. However, using a disinfectant is the best way to reduce the presence of germs to an acceptably low level.

**Foodborne Illness** - Is the result of ingestion of food or drink that is contaminated with pathogenic bacteria, parasites, viruses, or biological toxins or chemical agents.

**Food Hazard** - Means a biological, chemical, or physical property that may cause an unacceptable consumer health risk.

**Perishable Foods** – These are foods that require refrigeration. They include food containing meat, poultry, fish, shellfish, eggs, or milk products. Perishable foods are also known as potentially hazardous foods if not properly handled, stored or disposed of.

**Personal Hygiene**

Good personal hygiene practices are an essential part of providing safe food to customers. Among these hygiene practices, the most important is hand washing. Food service employees must wash their hands and forearms using the following procedure:

- First, moisten hands with hot water and apply hand soap.
- Second, vigorously rub hands together scrubbing between your fingers, under your fingernails, your forearms, and the back of your hands. You must continue scrubbing for
at least 20 seconds. It is the hand soap combined with the scrubbing action that removes the dirt and germs from your hands.

- Third, you must completely rinse your hands under running water and dry them with a disposable paper towel.

Staff must be aware of what their hands are touching at all times. They should recognize when their hands become contaminated and wash them to keep from passing the contamination on to the food they are preparing and serving. It is always necessary to wash your hands:

- When you first arrive at work
- Prior to handling food, utensils, and single service articles
- Before putting on gloves to handle ready-to-eat foods and between glove changes
- Before and after handling or touching any raw foods such as raw meats, chicken, and eggs
- After using the bathroom
- After touching any part of your body or uniform
- After handling dirty equipment, dishes or utensils
- After taking a break
- After any other activity that may contaminate your hands such as washing dishes, sweeping the floor, taking out the trash, eating or drinking, coughing or sneezing

One must wash their hands in an approved, designated hand sink. Sinks used to wash dishes or prepare food are not approved for hand washing. The hand wash sink must always be accessible and have an adequate supply of hot water, hand soap, and paper towels.

Staff that work with food must always use good hygiene and be in good health:

- Bathe daily and wear clean cloths
- Never go to work when sick, especially if you have symptoms of diarrhea, vomiting, fever, or if you have any discharge from your nose or eyes
- Notify your supervisor when you are sick. Certain illnesses will require you to stay home until you have a doctor's clearance
- Fingernails should be cut and maintained and should not be painted or have fake fingernails
- Jewelry must be removed prior to handling food with the exception of a simple wedding band
- When working with open food, staff must have an effective hair restraint, such as a hat or hair net
- Never eat or smoke in food preparation or food storage areas

Direct bare hand contact with ready-to-eat foods is prohibited. Ready-to-eat foods are those that will not be subjected to further cooking or heating to destroy bacteria; these may include, sandwiches, cut fruit, bread, tortillas, salads, or any cooked food. In order to handle ready-to-eat foods, one should use utensils, tongs, scoops, or wax paper. In situations where it becomes necessary to touch the food with hands, always wear disposable, non-latex gloves. Even though one may use gloves to handle food with hands, always wash hands prior to putting on
gloves and change the gloves when they become contaminated. **Always wash hands each time you change your gloves or remove contaminated the gloves.**

### Cleaning and Sanitizing

A scrupulously cleaned kitchen is vital to food safety. You should recognize that even surfaces that appear clean might still have harmful germs that you cannot see. Only by cleaning and sanitizing equipment, dishes, and surfaces that come into direct contact with food, can you eliminate and destroy these invisible germs.

There is a difference between washing and sanitizing. Washing removes visible soil and contamination and sanitizing kills and reduces the number of harmful bacteria that you cannot see. Staff workers are required to both wash and sanitize every surface that comes into contact with food to assure that they are completely free of any contamination.

Wiping cloths for cleaning and sanitizing must be available in every work area for equipment such as meat slicers, counters, food preparation tables, cutting boards, and utensils. Always wash, rinse, and sanitize these surfaces before and after they have come into contact with food. Also, because bacteria grow and multiply in moist environments, moist wiping cloths must be stored in a bucket of water and sanitizer when they are not in use. This sanitizing solution must be changed frequently; food debris and organic matter uses up the sanitizer quickly.

It is important that the disinfectant be at the proper concentration to ensure that the germs are destroyed and that the solution is not dangerous. The only sure way to measure the concentration is with a paper test strip. The white paper test strips will change to a medium blue if the chlorine is at the correct concentration- between 50 and 100 parts per million. If you use other types of disinfectants, such as quaternary ammonia or iodine, the appropriate test strips for these products must be used according the manufacturer’s instructions. **NOTE: When using disinfectants, read the safe handling procedures carefully and following the recommended precautions for personal protection. NEVER mix chlorine-based disinfectants with ammonium-based disinfectants.**

The same principles of washing and rinsing apply when washing dishes by hand in a three-compartment sink. Before starting, clean each sink compartment and drain board. Then scrape the dishes to remove the excess food. Then begin the three-step process:

- In the first compartment, thoroughly wash the dishes with detergent and hot water.
- In the second, rinse the dishes in clean hot water to remove the soap. (Mixing detergent with sanitizer can prevent the disinfectant from eliminating the germs)
- Third, the dishes must be sanitized in a solution of sanitizer and room temperature water. Ensure that the sanitizer is at the adequate concentration by using the appropriate chemical test strips. The dishes should remain completely immersed in the solution for at least 30 seconds.

After cleaning and sanitizing, it is necessary to let the dishes air dry on the drain board or rack. Once dry, store them in a clean place where they will be protected from contamination. Do not dry dishes with a dish towel as it can result in cross contamination.
Cross-Contamination and Food Storage

Cross-contamination occurs when harmful germs from raw foods or contaminated surfaces are passed onto the food. This transfer of germs may occur in any of the following situations:

• When hands that have touched raw food touch foods that are ready to eat.
• When raw or contaminated food touch foods that are ready to eat.
• When a ready to eat food comes into contact with surfaces that were not properly washed and sanitized after having been in contact with a raw food. Food contact surfaces include cutting boards, knives, utensils, and food preparation tables.
• When dirty wiping cloths or wiping cloths contaminated with raw foods are used on surfaces that come into contact with ready to eat foods.

You can prevent cross-contamination by washing and sanitizing every utensil, cutting board, food preparation table, and work area before and after coming in contact with food. Use the cleaning methods previously mentioned and adequately wash your hands, especially after handling raw foods.

In addition, always stored raw meats, eggs, poultry, and fish in containers and store them on the lowest shelves of the refrigerator. This will prevent the raw products from leaking or falling onto foods that are ready to eat. Finally, all foods must be stored at least six inches above the floor at all times.

Foods should always be used in the same order in which they were received. Use the oldest first then proceed to those received more recently. All arriving food products should be marked with a date so you know which inventory to use first.

In addition, any ready-to-eat potentially hazardous food (see definition below) must be marked with a discard date at the time of opening or preparation. The discard date must be no more than 7 days after the food was prepared or opened, if the food has been refrigerated at 41º F or less.

Food Temperatures

Cooking the food to the proper temperature is the best way to destroy harmful germs that may be present in foods. Most types of germs are killed through cooking. The required cooking temperatures may vary depending on the type of food.

It is extremely important that one use a metal stem thermometer to check the temperature of the food you are cooking. To correctly measure the temperature, insert the thermometer into the thickest part of the food that is cooking. The thermometers must be washed and sanitized before coming into contact with the food, and between uses, to prevent contamination.

Any food cooked in a microwave oven must be cooked to 165º F, stirred at least once during cooking, and then left to stand covered for a minimum of two minutes prior to serving.
Once the food has been cooked to the appropriate temperature, the food must be kept free from contamination. In the same manner, all ready to eat foods should be protected from contamination because they will be consumed without further cooking.

**The Temperature Danger Zone**

Potentially hazardous food (or food that can support the growth harmful bacteria) must be maintained above 140º F or less than 41º F at all times. This means that food that is held cold in a refrigerator should be below 41º F and cooked food that is being held hot must be held above 140º F. Harmful bacteria grow and multiply very quickly between 41º F and 140º F. The range of temperatures between 41º F and 140º F is called the temperature danger zone. Whenever possible, avoid having foods in the temperature danger zone. Likewise, all potentially hazardous foods should spend as little time as possible in the temperature danger zone during preparation, reheating, and cooling.

**Reheating Food**

Food that is cooked and refrigerated that is being prepared for immediate service may be reheated to any temperature. However, if a food is cooked, cooled, and reheated with the intention of holding it hot, the food must be reheated to a temperature of at least 165º F. Reheating must be rapid. Cold foods placed into a steam table will not reheat quickly enough. Instead use a microwave, stovetop, or oven to heat the food before placing it in the steam table. A food should only be reheated once.

**Cooling Food**

Cooling is usually the riskiest step in food preparation. If the food is not cooled properly the food can remain in the temperature danger zone too long. It can be very difficult to cool food quickly and most refrigeration units are not designed or capable of this. Therefore, avoid cooling whenever possible. Prepare foods daily by cooking and holding hot only the food that will be served during that day.

Nevertheless, the cooling of some foods in unavoidable and you must know the proper way to cool foods quickly. Cooling foods rapidly can be achieved using one or more of the following methods, based on the type of food that is to be cooled:

- Separate the food into smaller portions or thinner portions and place them in shallow containers
- Stir the food while the container is submerged in a water and ice bath
- Use metal containers to allow easier heat transfer
- Add ice as an ingredient
- Use equipment designed for quick cooling of foods
- Leave the food partially covered to allow heat to escape while protecting it from drips and other contaminants.

**Thawing Food**

Foods must never be left to thaw at room temperature. At room temperature the outer part of the food will thaw quickly and may remain in the temperature danger zone for too long while the center of the food continues thawing. The safest way to thaw food is inside a refrigerator. Inside the refrigerator the temperature of the food will always remain below 41º F, out of the temperature danger zone. In order to thaw raw products, place them in a container and store the container on the lowest shelf in the refrigerator to prevent contamination of the other foods.
You can also thaw foods under cold running water or in a microwave if it is part of the cooking process.

**Various Food Types and Recommended Cooking Temperatures**

<table>
<thead>
<tr>
<th>TYPE OF FOOD</th>
<th>TEMPERATURE (Degrees F)</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eggs (That are for immediate service)</td>
<td>145</td>
<td>Eggs over easy, scrambled eggs to order</td>
</tr>
<tr>
<td>Eggs (That are not for immediate service)</td>
<td>155</td>
<td>Custard, scrambled eggs on a buffet line</td>
</tr>
<tr>
<td>Ground Beef</td>
<td>155</td>
<td>Hamburgers, meat loaf, sausage</td>
</tr>
<tr>
<td>Non-Ground Meats</td>
<td>145</td>
<td>Steak, roasts, pork chops, corned beef</td>
</tr>
<tr>
<td>Poultry</td>
<td>165</td>
<td>Chicken, turkey, chicken patties</td>
</tr>
<tr>
<td>Seafood</td>
<td>145</td>
<td>Fish filet, shrimp, mussels</td>
</tr>
</tbody>
</table>

**Food Handling Procedures**

- Food must be brought to the site where consumption will occur as close to the serving time as possible and should be brought directly from the restaurant/food establishment to the site. The longer the amount of time food is left in the danger zone (41° F-140° F), the increased chances for bacteria growth and the greater the possibility for someone to become sick!

  - If dishes have to be picked up the night before, please follow the proper cooling procedures below:
    1) Food starting at a temperature of 140° F or above should be placed in the refrigerator immediately; the temperature must drop to 70° F in two hours.
    2) From 70° F, the food must be covered and allowed to drop to 41° F in four hours (6 hours total).
    3) To speed up the cooling process, cut foods into smaller portions and separate into smaller containers or use shallow pans (4 inches or less).

*Note: When cooling dishes in the refrigerator, DO NOT store dishes under any foods that require further washing or cooking such as raw meat and vegetables. This may lead to cross-contamination.*
Food Handling Guidelines

- Each item of food must be kept covered at all times during service and transportation. Food must be kept covered in plastic wrap or aluminum foil to maintain food temperatures and to prevent contamination.
  - During service, replace covers on dishes after each serving and do NOT allow the covers to be placed on the ground. Prevent covers from being placed on the ground where they may become contaminated. Prevent food from being left uncovered.

- Utensils and serving dishes must be from an approved source and must be washed and sanitized at the service site before service. Utensils and serving dishes cannot be used if they contain any cracks, chips, breaks or holes. Utensils and serving dishes must be cleaned in a 3-compartmental sink or a 2-compartmental sink and a dishpan.

- Serving utensils must remain within their respective dish with the handle extending out of the dish. For example, this means the spoon used to serve rice should remain in the rice dish and NOT used for any other dish! The handle should not be allowed to fall into the food.

- Limit the quantity of food out set out for service, especially cold foods. This will help to prevent bacteria growth from occurring which can lead to food poisoning.

Four Simple Food Safety Rules to Remember:

- Keep hot food above 140º F
- Keep cold food below 41º F
- Keep hands, work surfaces, and utensils clean!
- Never leave perishable food out of the refrigerator over 2 hours!

Toxic Chemicals and Pest Control

All chemicals, lotions, detergents, medicines, sanitizers, and cleaners must be stored away from food, utensils, and food preparation areas. Any chemical product that is not in its original container must be clearly labeled as to its contents. For example, when you transfer a chemical from its original container to a spray bottle, the spray bottle must now be labeled with the name of the chemical.
Pesticides and pesticide equipment cannot be present or stored in a food establishment. Applying any pesticide is strictly prohibited unless it is done by a professional, licensed pest control applicator. Pesticides should only be used as a last resort, after every available preventive measure has been taken. The best way to control cockroaches, mice, flies and other pests is to keep the establishment and garbage areas clean, and to eliminate hiding places.

**Thermometers**

Any refrigeration equipment you use must be equipped with a thermometer that measures the internal temperature. Use a metal stem thermometer to check foods you are cooking, holding hot or cold, or cooling. Thermometers must be cleaned and sanitized prior to being inserted into the food and between uses to prevent contamination of the food.

**Emergencies**

Know how to respond to emergency situations. If a sewer or waste system backs up in the drain or if the water supply is cut off or damaged, immediately notify the manager.

If an important piece of equipment used to keep foods hot or cold fails, act quickly. If possible, shift food into an alternate refrigerator or warming unit. When unsure how long a refrigerator or freezer has been malfunctioning, take the temperature of foods inside the unit using a metal stem thermometer. If the food is above 45°F, discard it. If frozen food has thawed, do not refreeze it, and discard it if the temperature exceeds 45°F.

**Food Guidelines for Dishes Prepared at Home**

**NOTE:**

- Food should be prepared at an approved (licensed) site.
- Home prepared food products are usually not permitted at temporary food/potluck events because:
  - There are no controls on the conditions for preparation or storage of foods.
  - The potential allergic reactions by customers who have consumed food at an event that may have been contaminated with pet dander or pet hair.