CHAPTER 1

INTRODUCTION TO THE PROFESSION

Evolving into a professional culinarian is a lifelong journey full of learned details and years of experience. It is challenging and demanding. Specific techniques and acquired knowledge are continually tested and improved upon. The specialized training required is intricate and precise. Deciding where to begin your study is just as important as the process of learning.

A sound and thorough education emphasizing the culinary fundamentals is the first step to becoming fluent in the trade. Aspiring professionals will find formal training at an accredited school an excellent beginning. Other training alternatives include taking part in special apprenticeship programs or self-directed courses of study. The process involves advancing from kitchen to kitchen by learning at the side of chefs who are involved in the day-to-day business of running a professional kitchen. The goal is to ensure a thorough understanding of basic and advanced culinary techniques, regardless of the type of training received.

Creating a network of professional colleagues and industry contacts is important for future development. The avenue of growth that includes working with others, sharing information, and communicating regularly will help to keep your own work fresh and contemporary.

An established network also makes it much easier for you to find a new position or qualified employees.

Learning new skills to gain a competitive stance and encourage creativity should be an ongoing part of your career development. Beneficial and rewarding opportunities result from attending continuing education classes, workshops, and seminars. Remain up to date with the following informative resources:

- Magazines and books
- Social media
- Instructional videos
- Government publications

THE KITCHEN BRIGADE SYSTEM

The brigade system was instituted by French chef Auguste Escoffier to streamline and simplify work in hotel kitchens. It served to eliminate the chaos and duplication of effort that could result when workers did not have clear-cut responsibilities. Under this system, each position has a station and defined responsibilities as outlined below. In smaller operations, the classic system is generally abbreviated and responsibilities are organized to make the best use of workspace and talents. A shortage of skilled personnel has also made modifications in the brigade system necessary.

The chef is responsible for all kitchen operations, including ordering, supervision of all stations, and development of menu items. He or she also may be known as the chef de cuisine or executive chef. The sous chef is second in command, answers to the chef, may be responsible for scheduling, fills in for the chef, and assists the station chefs (or line cooks) as necessary. Small operations may not have a sous chef. The range of positions in a classic brigade also include the following:

The sauté chef (saucier) is responsible for all sautéed items and their sauces. This position is often considered the most demanding, responsible, and glamorous on the line.

The fish chef (poissonier) is responsible for fish items and their sauces, often including fish butchering. This position is sometimes combined with the saucier position.

The roast chef (rôtisseur) is responsible for all roasted foods and related jus or other sauces.

The grill chef (grillardin) is responsible for all grilled foods. This position may be combined with that of rôtisseur.

The fry chef (friturier) is responsible for all fried foods. This position may be combined with the rôtisseur position.

The vegetable chef (entremetier) is responsible for hot appetizers and frequently has responsibility for soups, vegetables, and pastas and other starches. (In a full traditional brigade system, soups are prepared by the soup station or potager, and vegetables by the legumier.) This station may also be responsible for egg dishes.

The roundsman (tournant) or swing cook works as needed throughout the kitchen.

The cold-foods chef (garde manger), also known as the pantry chef, is responsible for preparation of cold foods including salads, cold appetizers, and pâtés. This is considered a separate category of kitchen work.

The butcher (boucher) is responsible for butchering meats, poultry, and occasionally fish. The boucher may also be responsible for breading meat and fish items.

The pastry chef (pâtissier) is responsible for baked items, pastries, and desserts. The pastry chef frequently supervises a separate kitchen area or a separate shop in larger operations. This position may be further broken down into the following areas of specialization:

confiseur (prepares candies and petits fours),

boulanger (prepares unsweetened doughs, as for breads and rolls),

glacier (prepares frozen and cold desserts), and

décorateur (prepares showpieces and special cakes).

The expediter or announcer (aboyeur) accepts orders from the dining room and relays them to the various station chefs. This individual is the last person to see the plate before it leaves the kitchen. In some operations, this may be either the chef or the sous chef.

The communard prepares the meal served to staff at some point during the shift (also called the family meal).

The commis or apprentice works under a station chef to learn how the station operates and its responsibilities.

THE DINING ROOM BRIGADE SYSTEM

The dining room, or front-of-the-house, positions also have an established line of authority.

The maître d'hôtel, known in American service as the dining room manager, is the person who holds the most responsibility for the front-of-the-house operation. The maître d'hôtel trains all service personnel, oversees wine selection, works with the chef to determine the menu, and organizes seating throughout service.

The wine steward (chef de vin or sommelier) is responsible for all aspects of restaurant wine service, including purchasing wines, preparing a wine list, assisting guests in wine selection, and serving wine properly. The wine steward may also be responsible for the service of liquors, beers, and other beverages. If there is no wine steward, these responsibilities are generally assumed by the maître d'hôtel.

The head waiter (chef de salle) is generally in charge of the service for an entire dining room. Very often this position is combined with the position of either captain or maître d'hôtel.

The captain (chef d'étage) deals most directly with the guests once they are seated. The captain explains the menu, answers any questions, and takes the order. The captain generally does any tableside food preparation. If there is no captain, these responsibilities fall to the front waiter.

The front waiter (chef de rang) ensures that the table is properly set for each course, that the food is properly delivered to the table, and that the needs of the guests are promptly and courteously met.

The back waiter or busboy (demi-chef de rang or commis de rang) is generally the first position assigned to new dining room workers. This person clears plates between courses, fills water glasses and bread baskets, and assists the front waiter and/or captain as needed.

Other Opportunities

In addition to the kitchen and dining room positions, a growing number of less traditional opportunities exist, many of which do not involve the actual production or service of foods.

Food and beverage managers oversee all food and beverage outlets in hotels and other large establishments.

Consultants and design specialists will work with restaurant owners, often before the restaurant is even open, to assist in developing a menu, designing the overall layout and ambience of the dining room, and establishing work patterns for the kitchen.

Well-informed salespeople help chefs determine how best to meet their needs for food and produce, introduce them to new products, and demonstrate the proper use of new equipment.

Teachers are essential to the great number of cooking schools nationwide. Most of these teachers are chefs who share the benefit of their experience with students.

Food writers and critics discuss food trends, restaurants, and chefs. It will always mean more, of course, if the writer is well-versed in the culinary arts. Some prominent members of the food media, such as James Beard, Julia Child, and Anthony Bourdain have been influential teachers and have written landmark cookbooks in addition to contributing to newspapers and magazines and appearing on television.

Food stylists and photographers work with a variety of publications, including magazines, books, catalogs, and promotional and advertising pieces. Food stylists are also commonly used in commercial video productions, and may have specialties, like beverages or breads.

Research-and-development kitchens employ a great many culinary professionals. These may be run by food manufacturers who are developing new products or food lines, or by advisory boards hoping to promote their products. Test kitchens are also run by a variety of both trade and consumer publications.

Challenges aside, the foodservice industry is rewarding and spontaneous. It requires stamina, drive, and creative influence. Those who have made the greatest impression know that

virtues such as open communication, efficient organization, proper management, innovative marketing, and thorough accounting are necessary to prosper. In due time, your knowledge and experience will gain worthy recognition.

FOOD AND KITCHEN SAFETY

The importance of food and kitchen safety cannot be overemphasized. Few things are as detrimental to a foodservice establishment as an officially noted outbreak of a food-borne illness caused by poor sanitary practices. In addition to providing a sanitary atmosphere and adhering to procedures for safe food handling, it is also important to ensure a safe working environment. This section covers the causes of food-borne illnesses and prevention procedures and includes checklists to help the staff achieve sanitary and safe kitchen conditions.

Food-Borne Illness

Foods can serve as carriers for many different illnesses. The most common symptoms of food-borne illnesses include abdominal cramps, nausea, vomiting, and diarrhea, possibly accompanied by fever. These symptoms may appear within a few hours after consumption of the affected food although in some cases several days may elapse before onset. For a food-borne illness to be declared an official outbreak, it must involve two or more people who have eaten the same food, and health officials must confirm it.

Food-borne illnesses are caused by adulterated foods (foods unfit for human consumption). The severity of the illness depends on the amount of adulterated food ingested and, to a great extent, the individual's susceptibility. Children, older people, and anyone whose immune system is already under siege generally will have much more difficulty than a healthy adult in combating a food-borne illness.

The source of the contamination affecting the food supply can be chemical, physical, or biological. Insecticides and cleaning compounds are examples of chemical contaminants that may accidentally find their way into foods. Physical contaminants include bits of glass, rodent hairs, and paint chips. Careless food handling can mean that even an earring or a plastic bandage could fall into the food and result in illness or injury.

Biological contaminants account for the majority of food-borne illnesses. These include naturally occurring poisons, known as toxins, found in certain wild mushrooms, rhubarb leaves, green potatoes, and other plants. The predominant biological agents, however, are disease-causing microorganisms known as pathogens, which are responsible for up to 95 percent of all food-borne illnesses. Microorganisms of many kinds are present virtually everywhere, and most are helpful or harmless, if not essential; only about 1 percent of microorganisms are actually pathogenic.

Food-borne illnesses caused by biological contaminants fall into two subcategories: intoxication and infection. Intoxication occurs when a person consumes food containing toxins from bacteria, molds, or certain plants and animals. Once in the body, these toxins act as poison. Botulism is an example of an intoxication.

In the case of an infection, the food eaten by an individual contains large numbers of living pathogens. These pathogens multiply in the body and generally attack the gastrointestinal lining. Salmonellosis is an example of an infection. Some food-borne illnesses have

characteristics of both an intoxication and an infection. *Escherichia coli* is an agent that causes such an illness.

Food Pathogens

The specific types of pathogens responsible for food-borne illnesses are fungi, viruses, parasites, and bacteria. Fungi, which include molds and yeast, are more adaptable than other microorganisms and have a high tolerance for acidic conditions. They are more often responsible for food spoilage than for food-borne illness. Beneficial fungi are important to the food industry in the production of cheese, bread, wine, and beer.

Viruses do not actually multiply in food, but if through poor sanitation practice a virus contaminates food, consumption of that food may result in illness. Infectious hepatitis A, caused by eating shellfish harvested from polluted waters (an illegal practice) or poor hand-washing practices after using the restroom, is an example. Once in the body, a virus invades a cell (called the host cell) and essentially reprograms it to produce more copies of the virus. The copies leave the dead host cell behind and invade still more cells. The best defenses against food-borne viruses are good personal hygiene and obtaining shellfish from certified waters.

Parasites are pathogens that feed on and take shelter in another organism, called a host. The host receives no benefit from the parasite and, in fact, suffers harm or even death as a result. Amebas and various worms such as *Trichinella spiralis*, which is associated with pork, are among the parasites that contaminate foods. Different parasites reproduce in different ways. One example is the parasitic worm that exists in larval stage in muscle meats. Once consumed, its life cycle and reproductive cycle continue. When the larvae reach adult stage, the fertilized females release more eggs, which hatch and travel to the muscle tissue of the host, and the cycle continues.

Bacteria are responsible for a significant percentage of biologically caused food-borne illnesses. To better protect food during storage, preparation, and service, it is important to understand the classifications and patterns of bacterial growth. Among the different conventions for the classification of bacteria, the most relevant to chefs are their requirement for oxygen (aerobic/anaerobic/facultative), their effects on people (pathogenic/undesirable/beneficial/benign), and their spore-forming abilities. Aerobic bacteria require the presence of oxygen to grow. Anaerobic bacteria do not require oxygen and may even die when exposed to it. Facultative bacteria can function with or without oxygen. It is also important to know at which temperature bacteria grow best. Certain bacteria are able to form endospores, which serve as a means of protection against adverse circumstances such as high temperature or dehydration. Endospores allow an individual bacterium to resume its life cycle if favorable conditions should recur.

Bacteria require three basic conditions for growth and reproduction: a protein source, readily available moisture, and time. The higher the amount of protein in a food, the greater its potential as a carrier of a food-borne illness. The amount of moisture available in a food is measured on the water activity (Aw) scale. This scale runs from 0 to 1, with 1 representing the Aw of water. Foods with a water activity above 0.85 support bacterial growth. A food's relative acidity or alkalinity is measured on a scale known as pH. A moderate pH—a value between 4.6 and 10 on a scale that ranges from 1 to 14—is best for bacterial growth, and most foods

fall within that range. Adding highly acidic ingredients, such as vinegar or citrus juice, to a food can lower its pH and extend its shelf life.

Many foods provide the three conditions necessary for bacterial growth and are therefore considered to be potentially hazardous. Meats, poultry, seafood, tofu, and dairy products (with the exception of some hard cheeses) are all categorized as potentially hazardous foods. Foods do not necessarily have to be animal-based to contain protein, however; vegetables and grains also contain protein. Cooked rice, beans, pasta, and potatoes are therefore also potentially hazardous foods. There are also other unlikely candidates that are ripe for bacterial growth such as sliced melons, sprouts, and garlic-and-oil mixtures.

Food that contains pathogens in great enough numbers to cause illness may still look and smell normal. Disease-causing microorganisms are too small to be seen with the naked eye, so it is usually impossible to ascertain visually that food is adulterated. Because the microorganisms—particularly the bacteria—that cause food-borne illness are different from the ones that cause food to spoil, food may be adulterated and still have no "off" odor.

Although cooking food will destroy many of the microorganisms present, careless food handling after cooking can reintroduce pathogens that will grow even more quickly without competition for food and space from the microorganisms that cause spoilage. Although shortcuts and carelessness do not always result in food-borne illness, inattention to detail increases the risk of creating an outbreak that may cause serious illness or even death. The various kinds of expenses related to an outbreak of food-borne illness, such as negative publicity and loss of prestige, are blows from which many restaurants can never recover.

Avoiding Cross Contamination

Many food-borne illnesses are a result of unsanitary handling procedures in the kitchen. Cross contamination occurs when disease-causing elements or harmful substances are transferred from one contaminated surface to another.

Excellent personal hygiene is one of the best defenses against cross contamination. An employee who reports for work with a contagious illness or an infected cut on the hand puts every customer at risk. Anytime the hands come in contact with a possible source of contamination (the face, hair, eyes, and mouth), they must be thoroughly washed before continuing any work.

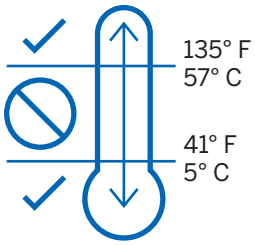
Food is at greatest risk of cross contamination during the preparation stage. Ideally, separate work areas and cutting boards should be used for raw and cooked foods. Equipment and cutting boards should always be cleaned and thoroughly sanitized between uses.

All food must be stored carefully to prevent contact between raw and cooked items. Place drip pans beneath raw foods. Do not handle ready-to-eat foods with bare hands. Instead, use suitable utensils or single-use food-handling gloves.

PROPER HAND WASHING

To reduce the chances of cross contamination, wash your hands often and correctly. Hands and forearms should be washed using soap and 110°F/43°C water for no less than 20 seconds. Be sure to wash your hands at the beginning of each shift and each new task; after handling raw foods; after going to the bathroom, sneezing, coughing, and so forth; and after handling any nonfood item.

Keeping Foods Out of the Danger Zone



An important weapon against pathogens is the observance of strict time and temperature controls. Generally, the disease-causing microorganisms found in foods, except for *E. coli* O157:H7, need to be present in significant quantities in order to make someone ill. Once pathogens have established themselves in a food source, they will either thrive or be destroyed, depending upon how long foods are in the danger zone.

There are pathogens that can live at all temperature ranges. For most of those capable of causing food-borne illness, the friendliest environment provides temperatures within a range of 41° to 135°F/5° to 57°C—the danger zone. Most pathogens either are destroyed or will not reproduce at temperatures above 135°F/57°C. Storing food at temperatures below 41°F/5°C will slow or interrupt the cycle of reproduction. (It should also be noted that intoxicating pathogens may be destroyed during cooking, but any toxins they have produced are still there.)

When conditions are favorable, bacteria can reproduce at an astonishing rate. Therefore, controlling the time during which foods remain in the danger zone is critical to the prevention of food-borne illness. Foods left in the danger zone for a period longer than 4 hours are considered adulterated. Additionally, the four-hour period is cumulative, meaning that the meter continues running every time the food enters the danger zone. Once the four-hour period has been exceeded, heating or cooling cannot recover foods.

Receive and Store Foods Safely

It is not unheard of for foods to be delivered to a foodservice operation already contaminated. To prevent this from happening to you, inspect all goods to be sure they arrive in sanitary conditions. Check the ambient temperature inside the delivery truck to see that it is correct. Check the temperature of the product as well as the expiration dates. Verify that foods have the required government inspection and certification stamps or tags. Randomly sample items and reject any goods that do not meet your standards. Move the items immediately into proper storage conditions.

Refrigeration and freezer units should be maintained on a regular schedule and equipped with thermometers to ascertain that the temperature remains within a safe range. Although in most cases chilling will not actually kill pathogens, it does drastically slow down reproduction. In general, refrigerators should be kept between 36° and 40°F/2° and 4°C, but quality is better maintained if certain foods can be stored at these specific temperatures:

Meat and poultry: 32° to 36°F/0° to 2°C

Fish and shellfish: 30° to 34°F/–1° to 1°C

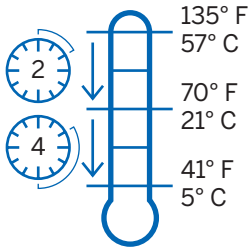
Eggs: 38° to 40°F/3° to 4°C

Dairy products: 36° to 40°F/2° to 4°C

Produce: 40° to 45°F/4° to 7°C

Separate refrigerators for each of the above categories are ideal, but if necessary, a single unit can be divided into sections. The front of the unit will be the warmest area, the back the coldest. Before storing food in the refrigerator, it should be properly cooled, stored in clean containers, wrapped, and labeled clearly with the contents and date. Store raw products below and away from cooked foods to prevent cross contamination by dripping. Use the principle of "first in, first out" (FIFO) when arranging food, so that older items are in the front.

Dry storage is used for foods such as canned goods, spices, condiments, cereals, and staples such as flour and sugar, as well as for some fruits and vegetables that do not require refrigeration and have low perishability. As with all storage, the area must be clean, with proper ventilation and air circulation. Cleaning supplies should be stored in a separate place.



Hold Cooked or Ready-to-Serve Foods Safely

Keep hot foods hot and cold foods cold. Use hot-holding equipment (steam tables, double boilers, bain-maries, heated cabinets or drawers, chafing dishes, etc.) to keep foods at or above 135°F/57°C. Do not use hot-holding equipment for cooking or reheating. Use cold-holding equipment (ice or refrigeration) to keep cold foods at or below a temperature of 41°F/5°C.

Cool Foods Safely

One of the leading causes of food-borne illness is improperly cooled food. Cooked foods that are to be stored need to be cooled to below 41°F/5°C as quickly as possible. This should be completed within 4 hours, unless you use the two-stage cooling method.

In the first stage of the two-stage cooling method, foods must be cooled to 70°F/21°C within 2 hours. In the second stage, foods must reach 41°F/5°C or below within an additional 4 hours, for a total cooling time of 6 hours. According to FDA guidelines, using the two-stage method quickly moves the food through the part of the danger zone where bacteria grow most rapidly.

The proper way to cool hot liquids is to place them in a metal container in an ice water bath that reaches the same level as the liquid inside the container. Stir the liquid in the container frequently so that the warmer liquid at the center mixes with the cooler liquid at the outer edges of the container, bringing down the overall temperature more rapidly.

Semisolid and solid foods should be refrigerated in a single layer in shallow containers to allow greater surface exposure to the cold air. For the same reason, large cuts of meat or other foods should be cut into smaller portions, cooled to room temperature, and wrapped before refrigerating.

Reheat Foods Safely

When foods are prepared ahead and then reheated, they should move through the danger zone as rapidly as possible and be reheated to at least 165°F/74°C for a minimum of 15 seconds. If all proper cooling and reheating procedures are followed each time, foods may be cooled and reheated more than once.

Food should be brought to the proper temperature over direct heat (burner, flattop, grill, or conventional oven) or in a microwave oven. Do not use hot-holding equipment for cooking or reheating. A steam table will adequately hold reheated foods above 135°F/57°C, but it will not bring foods out of the danger zone quickly enough. Instant-read thermometers should always be used to check temperatures.

Thaw Frozen Foods Safely

Frozen foods may be thawed safely in several ways. Never thaw food at room temperature. The best (though slowest) method is to allow the food to thaw under refrigeration. The food should still be wrapped and should be placed in a shallow container on a bottom shelf to prevent possible cross contamination.

If there is no time to thaw foods in the refrigerator, covered or wrapped food may be placed in a container under running water of approximately 70°F/21°C or below. Use a stream of water strong enough to circulate the water around the food.

Individual portions that are to be cooked immediately may be thawed in a microwave oven. Liquids, small items, and individual portions may even be cooked without thawing, but larger pieces that are cooked while still frozen become overcooked on the outside before they are thoroughly done throughout.

HAZARD ANALYSIS CRITICAL CONTROL POINTS (HACCP)

HACCP stands for Hazard Analysis Critical Control Points, which is a scientific state-of-the-art food safety program originally developed for astronauts. HACCP takes a systematic approach to the conditions that are responsible for most food-borne illnesses. It is preventive in nature, anticipating how food safety problems are most likely to occur and taking steps to prevent them from occurring. The types of hazards of concern are biological, chemical, and physical. Biological hazards are typically microbiological, which include bacteria, viruses, and parasites. Chemical hazards can be found in the sanitation products used in the kitchen, and physical hazards include glass, wood, stones, or other foreign objects.

The HACCP system has been adopted by both food processors and restaurants, as well as by the FDA and USDA. At this time, there are no particular mandates that all foodservice establishments must use HACCP. However, instituting such a plan may prove advantageous on many levels. The heart of HACCP is contained in the following seven principles:

1. Assess the hazards. The first step in a HACCP program begins with a hazard analysis of the menu item or recipe. The process must be looked at by designing a flowchart that covers every step in the period from "dock to dish."

2 Identify the critical control points. The next decision to make, after you have established a flow diagram and identified potential hazards, is to identify the critical control points (CCPs). A critical control point is the place in the utilization of the food at which you have the ability to prevent, eliminate, or reduce an existing hazard or to prevent or minimize the likelihood that a hazard will occur. To quote the 1999 FDA Food Code, a critical control point is "a point or procedure in a specific food system where loss of control may result in an unacceptable health risk." One of the most difficult aspects of putting together a HACCP program is not to overidentify these critical control points.

3 Establish critical limits and control measures. Critical limits are generally standards for each critical control point; control measures are what you can do ahead of time to facilitate the achievement of your critical limit. Many limits have already been established by local health departments. For example, an established critical limit for the cooking step in preparing chicken is a final internal temperature of 165°F/74°C. If you were to hold this chicken on the line before actual service, it would have to be kept at 140°F/60°C to prevent the growth of pathogenic organisms. Holding would be another critical step in this process.

4 Establish procedures for monitoring CCPs. Critical limits for each CCP have to be established to identify what is to be monitored. You must also establish how the CCP will be monitored and who will do it. Monitoring helps improve the system by forcing identification of problems or faults at particular points in the process. This allows for more control or improvement in the system.

5 Establish corrective action plans. A plan of action must be identified to deal with a deviation or substandard level that occurs for a step in the process. Specific corrective actions must be developed for each CCP, because each food item and its preparation can vary greatly from one kitchen to the next.

6 Set up a record-keeping system. Keep documentation on hand to demonstrate whether the system is working. Recording events at CCPs ensures that critical limits are met and preventive monitoring is occurring. Documentation typically consists of time/temperature logs, checklists, and sanitation forms.

7 Develop a verification system. This step establishes procedures to ensure that the HACCP plan is working correctly. If procedures are not being followed, make the necessary modifications to the system so that they are.

SERVING FOODS SAFELY

The potential to transmit food-borne illness does not end when the food leaves the kitchen. Restaurant servers should also be instructed in good hygiene and safe food-handling practices. Hands should be properly washed after using the restroom, eating, smoking, and touching one's face or hair, and handling money, dirty dishes, or soiled table linens. When setting tables, never touch the parts of flatware that come in contact with food, and handle glassware by the stems or bases only. Carry plates, glasses, and flatware in such a way that food contact surfaces are not touched. Serve all foods using the proper utensils.

Cleaning and Sanitizing

Cleaning refers to the removal of soil or food particles, whereas sanitizing involves using moist heat or chemical agents to kill pathogenic microorganisms. For equipment that cannot

be immersed in a sink, or for equipment such as knives and cutting boards employed during food preparation, use a wiping cloth soaked in a double-strength sanitizing solution to clean and sanitize between uses. Iodine, chlorine, or quaternary ammonium compounds are all common sanitizing agents.

Small equipment, tools, pots, and tableware should be run through a ware-washing machine or washed manually in a three-compartment sink. After sanitizing, equipment and tableware should be allowed to air-dry completely, because using paper or cloth toweling could result in cross contamination.

Three-bay sink used to soak, wash, and sanitize small equipment, tools, pots, and tableware.

Careful sanitation procedures, proper handling of foods, and a well-maintained facility all work together to prevent a pest infestation. Take the necessary steps to prohibit the potential harboring of various pathogens caused by pests.

Food Allergies

The way your body reacts when you eat a food to which you are truly allergic can be dramatic or even dangerous. An allergic reaction to a food may also occur rapidly. The skin may become itchy and develop hives or welts. Some people experience swelling of their throats or tongues. Severe reactions require immediate medical attention.

A true food allergy is nothing to fool around with. As a chef, you can't assume that a request for "no garlic" indicates an unevolved palate or an unreasonable food dislike. For the

individual suffering from a food allergy, even the merest hint of garlic in his or her soup can set off a reaction.

People who suffer from an allergy will ask about the menu regarding the food(s) that they cannot eat. It is important that you and your staff know the ingredients used in a dish. As of January 2006, all packaged foods that contain major food allergens must identify them on the label, so you must be certain that you have read the label on prepared foods thoroughly.

It is also important to realize that depending on an individual's sensitivity, even the very small amount of allergen left on a piece of equipment and transferred to a food could be enough to set off a reaction.

Some of the most common food allergies are to the following:

- Peanuts
- Tree nuts (almonds, walnuts, and pecans, plus more)
- Milk
- Eggs
- Wheat
- Soy
- Fish
- Shellfish
- Sesame

KITCHEN SAFETY

In addition to the precautions necessary to guard against food-borne illness, care must also be taken to avoid accidents to staff and guests. The following safety measures should be practiced.

Health and Hygiene

Maintain good general health with regular checkups. Do not handle food when ill. Keep any burn or break in the skin covered with a clean, waterproof bandage. Cover your face with a tissue when coughing or sneezing and wash hands afterward.

Keep hair clean, neat, and contained, if necessary. Keep fingernails short and well-maintained, with no polish. Keep hands away from hair and face when working with food.

Fire Safety

It takes only a few seconds for a simple flare-up to turn into a full-scale fire. Grease fires, electrical fires, or even a waste container full of paper catching fire when a match is carelessly tossed into it are easy to imagine in any busy kitchen. A comprehensive fire safety plan should be in place and a standard part of all employee training.

The first step to take to avoid fires is to make sure that the entire staff is fully aware of potential fire dangers. Be sure that all equipment is up to code. Frayed or exposed wires

and faulty plugs can all too easily be the cause of a fire. Overburdened outlets are another common culprit.

Have fire extinguishers in easily accessible areas. Proper maintenance of extinguishers and timely inspections by your local fire department are vital. The exits from all areas of the building should be easy to find, clear of any obstructions, and fully operational.

Thorough training is essential. Everyone should know what to do in case of a fire. Your guests rely on you and your staff for guidance. Instruct your kitchen staff in the correct way to handle a grill fire and grease fire. (Above all, make sure everyone knows never to try to put out a grease, chemical, or electrical fire by throwing water on the flames.) Everyone should know where the fire department number is posted.

Dressing for Safety

The various parts of the typical chef's uniform play important roles in keeping workers safe as they operate in a potentially dangerous environment. The chef's jacket, for instance, is double-breasted to create a two-layer cloth barrier over the chest to protect against steam burns, splashes, and spills. (The design also allows the jacket to be rebuttoned on the opposite side to cover any spills.) The sleeves of the jacket are long to cover as much of the arm as possible. Pants should be worn without cuffs, which can trap hot liquids and debris.

Be it a tall white toque or a favorite baseball cap, chefs wear hats to contain their hair and prevent it from falling into the food. Hats also help absorb sweat from overheated brows. Neckerchiefs serve a similar sweat-absorbing role.

The apron is worn only to protect the jacket and pants from excessive staining. Side towels are used to protect their hands when working with hot pans, dishes, or other equipment. Side towels used to lift hot items must be dry in order to provide protection.

Hard leather shoes with slip-resistant soles are recommended because of the protection they offer and the support they give to the feet.

Jackets, pants, aprons, side towels, and shoes can harbor bacteria, molds, and parasites. Use hot water, a good detergent, and a sanitizer, such as borax or chlorine bleach, to remove grime.

Regulations, Inspection, and Certification

Federal, state, and local government regulations work to ensure the wholesomeness of the food that reaches the public. Any new foodservice business should contact the local health department well in advance of opening to ascertain necessary legal requirements. Some states and local jurisdictions offer sanitation certification programs. Regulations and testing vary from area to area. Certification is often available through certain academic institutions.

The Occupational Safety and Health Administration (OSHA)

OSHA is a federal organization, instituted in 1970, that falls under the purview of the U.S. Department of Labor. Its regulations help employers and workers establish and maintain a safe, healthy work environment. Among OSHA's regulations is the mandate that all places of employment must have an adequate and easily accessible first-aid kit on the premises. In addition, if any organization has more than 10 employees, records must be kept of all accidents and injuries to employees that require medical treatment. OSHA concentrates its efforts on providing services where the risk to worker safety is greatest.

Americans with Disabilities Act (ADA)

This act is intended to make public places accessible and safe for those with a variety of disabilities. Any new construction or remodeling done to a restaurant must meet ADA standards. This includes locating telephones so that a person in a wheelchair can reach them and providing toilets with handrails.

Drugs and Alcohol in the Workplace

One final topic that is of great importance in the workplace is the right of all workers to be free from the hazards posed by a coworker who comes to work under the influence of drugs or alcohol. The abuse of any substance is a serious concern because it can alter or impair one's ability to perform his or her job. Reaction times are slowed, inhibitions are lowered, and judgment is impaired. The responsibilities of a professional working in any kitchen are too great to allow someone suffering from a substance abuse problem to diminish the respect and trust you have built with your customers and staff.