



Loss Control TIPS

Technical Information Paper Series

Innovative Safety and Health SolutionsSM

Food Safety: Preventing Foodborne Illness

Foodborne illnesses have received increased attention lately, with good reason. The latest government estimates indicate that up to 33 million cases occur each year, resulting in 10,000 deaths. Losses estimated at \$10 *billion* a year can be attributed to foodborne illnesses. Costs include medical expenses, loss of income, loss of market share, and legal fees.

Foods affected vary from hamburgers to iced tea to lettuce. In January 1997, the President proposed \$43 million to “beef up” the nation’s food contamination detection efforts in order to reduce the human suffering and economic waste caused by foodborne illnesses.

Conditions responsible for foodborne illness stem mainly from three sources:

- Employees
- Temperature and time control
- Cross contamination

Employees Play an Important Role

Employees can contribute to the spread of foodborne illnesses in two basic ways: through their own illnesses and by not following good hygiene practices. Employees should not be allowed to prepare food, or work with sanitized equipment, utensils or other service items intended for use by the food consumer if, when reporting to work, they:

- are ill
- have a persistent cough, sneeze, or runny nose with discharge
- have symptoms of intestinal illness
- have an open cut or wound.

At the start of each shift, employees whose duties require the handling and preparation of food should be screened to assure that none of the conditions listed above is present. *It is incumbent upon supervisors and management to assure that employees who have any of these conditions are removed from food preparation areas and assigned to alternate duties, where possible.* Any employee reassigned because of the presence of any of these conditions should be required to obtain documentation from a medical physician attesting to the employee’s health and suitability to return to work in food handling and preparation task.



Good Personal Hygiene is Essential

Basic hygiene practices includes all aspects of personal cleanliness, from the time the employee *arrives to begin work to the time they leave at the end of the assigned work period*. Cleanliness pertains to hands, including finger nails, arms, jewelry and all outer clothing. In simple terms, employees must keep their hands and arms *clean*.

Hand and arm washing should take place:

- at the beginning of the work period
- after using the toilet
- after eating, drinking, coughing, sneezing, or using tobacco
- after working with unsanitized equipment or utensils
- whenever switching task or food groups.

Washing should take place at a lavatory that is designated for personal cleanliness, where washing of food, equipment or utensils is forbidden. A special hand washing solution and finger nail brush should be provided and its use must be required.

Wearing of jewelry should be forbidden for two reasons. First, jewelry could fall into the food and become a foreign object, with the potential to cause injury to consumers. Second, food particles could become lodged in or on the jewelry, leading to contamination of the food product being prepared (or of other food products prepared at a later time).

In addition to clean hands and arms, clean clothing is important. Clothing serves as a barrier to the spread of foodborne illness and contamination of food. If an employee's outer clothing becomes soiled during the food preparation task, the employee should exchanged it for clean clothing *before* he or she moves on to the next assignment. Likewise, clothing worn during non-food preparation task should be changed *before* beginning any activities related to food preparation. In addition to aprons, lab coats, and smocks, hair and hand coverings offer added protection. Hair coverings include not only hair nets or caps, but also beard coverings or nets. If gloves are required, they should be *single-use gloves* and should be changed whenever the food preparation task changes.

Temperature and Time Controls in Food Preparation and Storage

The 1995 *Food Code* recommends specific cooking, freezing, refrigeration, and reheating temperature and time parameters for a variety of foods. The primary focus is the destruction of organisms that have been known to cause foodborne illnesses.

Cooking specifications vary, dependent not only on the type of food (meat, fish, eggs, or poultry) but often on the condition of the food. Example: raw poultry should be cooked at 63 degrees C (145 degrees F) for 15 seconds, yet stuffing containing poultry needs to be cooked at 74 degrees C (165 degrees F) for 15 seconds. Another variable is the type of cooking equipment; still dry oven, convection oven, high humidity over, or microwave. For example, the temperature noted earlier for poultry would have to be increased an additional 14 degrees C (25 degrees F) for microwave ovens.

Cooling requirements are also very specific. Food must be refrigerated at 41°F. Cooked *potentially hazardous food* shall be cooled from 60°C (140°F) to 21°C (70°F) within 2 hours.

In addition to specific cooling temperature and time parameters, the Food Code also has recommended cooling *methods*. Examples:

- use shallow pans
- separate food into smaller or thinner portions
- use containers to facilitate heat transfer
- use ice as an ingredient.

As with cooking, reheating recommendations have variations. In general, *all parts* of food reheated in conventional ovens should reach a temperature of 74 degrees C (165 degrees F) for at least 15 seconds. In microwaves, the temperature is raised to 88 degrees C (190 degrees F) and the food must be covered and allowed to stand for 2 minutes.

Cross Contamination

Cross contamination can occur in a number of ways: from food to food, from utensils to food, from equipment to food, etc. The main concern is during the preparation of unlike foods which are prepared using the same utensils or equipment. Animal foods, such as meats, should not be stored, cut, cleaned, or mixed in containers that are used for vegetables or fruits. The reverse is also true. When animal foods are being prepared, fruits and vegetables awaiting preparation should not be located on the same counter or cutting board. Utensils, knives, spoons, spatulas, etc., used in the preparation of animal foods, should not be used in preparation of fruits and vegetables, unless they have been sanitized with a sanitizing solution. The same contamination prevention technique should be used with any equipment, cutting boards, mixing bowls and pans, which can be used in the preparation of the different food types, animal foods, fruits and vegetables.

Conclusion

This article serves as a *brief* overview of the recommended practices included in the 1995 *Food Code*. More detailed information is available in 21 CFR 110, “Good Manufacturing Practice (GMP) in Manufacturing, Packaging, or Holding Human Food.” The information presented here should be viewed as minimum guidelines for food processing operations. With good personal hygiene and sanitation procedures the likelihood of foodborne illness is greatly reduced. As is true with other loss prevention efforts, food safety must have 100% management backing, and production supervisors must enforce the procedures 100%. Judging from the latest government estimates, there is a definite need for improvement.

For more information, contact your local Hartford agent or your Hartford Loss Control Consultant. Visit The Hartford’s Loss Control web site at <http://www.thehartford.com/corporate/losscontrol/>

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