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**SAFE FOOD-HANDLING PRACTICES  
for  
RETAIL FOOD SERVICE ESTABLISHMENTS  
and their EMPLOYEES  
(Published June 2000)**

**FOR A COMPLETE PAPER COPY OF THIS BOOK, PLEASE CALL THE E.H. DEPT. AT THE ABOVE  
PHONE, FAX, E-MAIL OR ADDRESS.**

**STATISTICS** - All food may contain some natural bacteria. Improper handling gives bacteria the opportunity to grow and be transferred to other food items. Contaminated food can be very dangerous, especially to children, the elderly, and immune suppressed individuals.

**DID YOU KNOW** that annually, up to 9,000 people die as a result of food-borne illnesses? Additionally, 80 million Americans (about 1 in 3 people) experience fever, stomach cramps, vomiting and diarrhea from improperly handled food.

**A FEW WORDS FROM THE HEALTH OFFICER** - Many of the frequent mistakes I see food handlers make during regular inspections are due to lack of proper training. With the following information we provide valuable information to food service establishments and their employees, thus reducing possible incidents of food-borne illnesses, and improving the quality of service within all establishments. The format identifies food handling practices and how they directly relate to regular inspection reports and food-borne illness. We also include a test and answer key for your convenience should you choose to conduct training sessions with this guide. If you have questions or comments regarding the information included here, please contact our office in one of the manners listed above.

**TEN FACTORS CONTRIBUTING FOR FOOD-BORNE ILLNESSES**

1. **Using food/water from an unapproved source;**
2. **Cross-contamination of raw foods with cooked foods or foods ready for service without further cooking;**
3. **Working with food when affected with diarrhea, vomiting, fever, sore throat, colds, infected cuts, burns, wounds, boils;**
4. **Failure to wash hands between tasks;**
5. **Poor employee training by management;**
6. **Failure to practice the kill steps: Hot & cold hold, rapid reheat;**
7. **Failure to thoroughly cook foods to proper temperatures;**
8. **Failure to properly cool foods;**
9. **Failure to properly clean and sanitize utensils and equipment; and**
10. **Insect/rodent infestations.**

**BASIC FOOD-BORNE MICROBIOLOGY** - What makes us sick and how they work:

**Bacteria:** are single cells that grow by binary fission. They may be gram negative or gram positive and some bacteria are spore formers which means they can be extremely resistant to temperature and chemical agents, and

spores may become dormant when conditions aren't favorable for growth. Factors which affect the growth of bacteria are: nutrients, temperature, water activity, inhibitors, pH, and atmosphere.

**Viruses:** are not 'alive,' they are smaller than bacteria, and only infect a particular type of a cell in a particular species of animal. It only takes a small number to make you ill, and they do not replicate in food. Viruses are extremely persistent, difficult to detect, resistant to freezing, pH extremes, heat and radiation.

**Parasites:** many have a low infective dose and require longer incubation periods. They do not multiply in food, they need a host to survive and multiply. Some life stages of parasites can be very resistant to control measures.

## **TYPES OF FOOD-BORNE ILLNESSES**

**Food-borne Infection:** The Microorganism itself is ingested and multiplies in the host's body.

**Food-borne Intoxication:** Microorganisms grow in food and release a toxin. The preformed toxin is ingested when the food is consumed.

**Toxicoinfection:** A combination of the two. Noninvasive bacteria are ingested and produce toxin while in the intestine.