



Seniors and Food Safety

Preventing Foodborne Illness

INTRODUCTION

A Lifetime of Experience and Changes

Let's face it.

Seniors have a lifetime of experience shopping, preparing and eating food. Fortunately, Americans enjoy one of the safest most healthful food supplies in the world.

But a lot has changed over that lifetime—from the way food is produced and distributed, to the way it is prepared and eaten. What is also changing is your ability to fight-off dangerous bacteria that may invade your body through the food you eat.

The good news is that well-known saying

"An ounce of prevention is worth a pound of cure"

remains true. From the farm to the table, preventing the growth of foodborne bacteria is the key to reducing the millions of illnesses and thousands deaths each year.

To learn more about foodborne illness, understand why the changes in food production and food distribution are requiring consumers to take extra care when handling food, and to test your knowledge of safe food handling and food selection, read on. There is also information on food safety for young children, which may be important to you if you take care of young family members for day, a weekend, or full-time.

Additional information on [Who Protects the Food Supply](#).

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What is Foodborne Illness?



Right now, there may be an invisible enemy ready to strike. He's called BAC (bacteria) and he can make you sick. In fact, even though you can't see BAC—or smell him, or feel him—he and millions more like him may have invaded the food you eat.

The illness caused by bacteria or other pathogens on food, often shows itself as flu-like symptoms such as nausea, vomiting, diarrhea, or fever, so many people may not recognize the illness is caused by bacteria or other pathogens on food.

Thousands of types of bacteria are naturally present in our environment. Not all bacteria cause disease in humans. For example, some bacteria are used beneficially in making cheese and yogurt.

Bacteria that cause disease are called pathogens. When certain pathogens enter the food supply, they can cause foodborne illness. Only a few types cause millions of cases of foodborne illness each year. Most cases of foodborne illness can be prevented.

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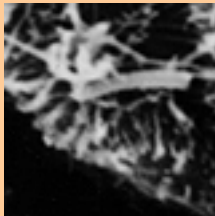
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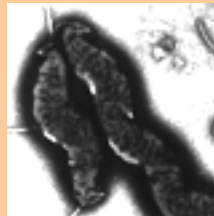
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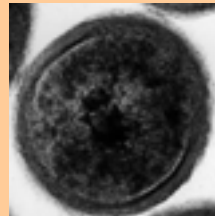
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Salmonella



Campylobacter jejuni



Listeria monocytogenes



Escherichia coli
O157:H7

A Lifetime of Changes in Food Production

It used to be that food was produced close to where people lived. Many people shopped daily, and prepared and ate their food at home. Eating in restaurants was saved for special occasions. Oh how the times have changed.

Turning the tables on foodborne illness requires responding to a complex web of trends:

- new, more virulent, more drug-resistant pathogens are finding their way onto new foods;
- there are changes in how food is processed; the food we eat today is produced around the world;
- we're eating more meals outside the home—40 percent of the American food dollar today is spent in restaurants paying others to prepare our meals;
- there is a growing senior population whose immune systems cannot fight off the harmful bacteria, which makes them more vulnerable to foodborne illness.

Now You Know—Bad Bacteria May Be in Your Good Food

Bacteria may be present on products when you purchase them. Plastic-wrapped boneless chicken breasts and ground meat, for example, were once part of live chickens or cattle. Raw meat, poultry, seafood and eggs are not sterile. Neither is produce such as lettuce, tomatoes, sprouts and melons.

Foods, including safely cooked, ready-to-eat foods, can become cross-contaminated with bacteria transferred from raw products, meat juices or other contaminated products, or from persons with poor personal hygiene.

That's why care must be taken throughout the food production, distribution and consumption chain.

Just the Facts—Seniors Are at Risk for Foodborne Illness

Data on foodborne illnesses collected by the Centers for Disease Control and Prevention clearly show that those who are age 50 and older suffer more severe complications from foodborne illness than do those who are younger. These complications include more hospitalizations and an increased incidence of death. Why? Check out ["Why Are Seniors At-Risk for Foodborne Illness?"](#)

Some of these harmful foodborne bacteria have been making news lately. You may have heard or read about bacteria such as *Campylobacter* in chicken, *E. coli* O157:H7 in ground beef, *Salmonella enteritidis* in eggs, and *Vibrio vulnificus* in oysters. Illnesses resulting from these bacteria occurred because the consumers either ate the foods raw or undercooked (thorough cooking kills the bacteria) or the foods were not handled in a safe manner. For more information on the safe handling of food, check out ["What's a Senior to Eat, To Market to Market,"](#) and ["What's Cooking?"](#)

FOR ANSWERS TO QUESTIONS ABOUT FOOD SAFETY CONTACT:

The [FDA Food Information and Seafood Hotline](#), tollfree, at 1-800-FDA-4010. The hotline offers information to consumers in English and Spanish, 24 hours a day, seven days a week. Public affairs specialists are available from noon to 4 p.m., EDT, Monday through Friday, to answer specific questions.

The [USDA Meat and Poultry Hotline](#) can be reached, tollfree, by calling 1-800-535-4555. This hotline, staffed by home economists and dietitians, will answer questions regarding the safe storage, handling, and preparation of meat and poultry products from 10:00 a.m. to 4:00 p.m., EDT, Monday through Friday. Recorded food safety messages are available at all times.

Next: [Why are Seniors At-Risk for Foodborne Illness](#)

Additional information on [Foodborne Pathogens \(Bad Bug Book\)](#)



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Seniors and Food Safety

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Why Are Seniors At-risk for Foodborne Illness?

Dr. James L. Smith, a microbiologist with the U.S. Department of Agriculture, wanted to find out the answer to the question of why seniors are more at risk for foodborne illness.

So he reviewed data from foodborne outbreaks at nursing homes, and compared the immune and digestive systems of seniors and younger individuals as well as evaluating the overall physical well being of seniors. What he found is most interesting.

The Immune System and Aging

As we age, the ability of our immune system to function at normal levels decreases. The immune system is one of the most important mechanisms for fighting disease and preserving health, so a decrease in the level of disease-fighting cells is a significant factor in the number of infections that may occur.

In addition to the normal decrease in the function of the immune system as part of the aging process, undergoing major surgery also affects the body's ability to fight off infections.

To counteract the affects of aging on the immune system, long-term regular exercise is important.

The Gastrointestinal Tract and Aging

As we age, inflammation of the lining of the stomach and a decrease in stomach acid occur. Because the stomach plays an important role in limiting the number of bacteria that enter the small intestine, a decrease or loss of stomach acidity increases the likelihood of infection if a pathogen is ingested with food or water.

Also adding to the problem is the slow down of the digestive process, allowing for the rapid growth of pathogens in the gut and the possible formation of toxins.

Malnutrition and Aging

You maybe wondering what malnutrition has to do with foodborne illness. There is a connection. Malnutrition leads

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to increased incidence of infections, including those that result from foodborne bacteria.

There are many reasons why malnutrition occurs in seniors. There may be a decrease in the pleasure of eating. Medication, digestive disorders, chronic illnesses, physical disabilities or depression may result in a loss of appetite.

Good nutrition is an important factor in maintaining a healthy immune system.

Symptoms of Foodborne Illness

Common symptoms of foodborne illness include diarrhea, abdominal cramping, fever, sometimes blood or pus in the stools, headache, vomiting, and severe exhaustion. However, symptoms will vary according to the type of bacteria and by the amount of contaminants eaten.

Symptoms may come on as early as half-hour after eating the contaminated food or they may not develop for several days or weeks. They usually last only a day or two, but in some cases can persist a week to 10 days. For most healthy people, foodborne illnesses are neither long lasting nor life threatening. However, they can be severe in seniors.

In Case of Foodborne Illness

If you suspect that you or a family member has foodborne illness follow these general guidelines:

1. **Preserve the evidence.** If a portion of the suspect food is available, wrap it securely, mark "DANGER" and refrigerate it. Save all the packaging materials, such as cans or cartons. Write down the food type, the date, and time consumed, and when the symptoms started. Save any identical unopened products.
2. **Seek treatment immediately.**
3. **Call the local health department** if the suspect food was served at a large gathering, from a restaurant or other food service facility, or if it is a commercial product.
4. **Call the FDA Consumer Food Information Line** at 1 (800-FDA-4010) if you have questions.

Next: [What's a Senior to Eat?](#)

Additional information on [Foodborne Illness](#) or [Reporting Illnesses](#)



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Seniors and Food Safety

Preventing Foodborne Illness

What's a Senior to Eat?

Nutritionists agree that a healthful diet includes a variety of foods. Food choices also can help reduce the risk for chronic diseases, such as heart disease, cancers, diabetes, stroke, and osteoporosis, that are the leading cause of death and disability among Americans. But for seniors, certain foods may pose a significant health hazard because of the level of bacteria present in the product's raw or uncooked state.

Seniors should avoid these products:

- Raw fin fish and shellfish, including oysters, clams, mussels, and scallops.
- Raw or unpasteurized milk or cheese.
- Soft cheeses such as feta, Brie, Camembert, blue-veined, and Mexican-style cheese. (Hard cheeses, processed cheeses, cream cheese, cottage cheese, or yogurt need not be avoided.)
- Raw or lightly cooked egg or egg products including salad dressings, cookie or cake batter, sauces, and beverages such as egg nog.
- Raw meat or poultry.
- Raw alfalfa sprouts which have only recently emerged as a recognized source of foodborne illness.
- Unpasteurized or untreated fruit or vegetable juice. When fruits and vegetables are made into fresh-squeezed juice, harmful bacteria that may be present can become part of the finished product. Most juice in the United States, 98 percent, is pasteurized or otherwise treated to kill harmful bacteria. To help consumers identify unpasteurized or untreated juices, the Food and Drug Administration is requiring a warning label on these products. The label says:

WARNING:

This product has not been pasteurized and therefore may contain harmful bacteria that can cause serious illness in children, the elderly, and persons with weakened immune systems.

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Additional information on [Juice Safety](#), [Sprouts](#),
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Seniors and Food Safety

Preventing Foodborne Illness

To Market, To Market

Prevention of foodborne illness starts with your trip to the supermarket. Pick up your packaged and canned foods first. Don't buy food in cans that are bulging or dented or in jars that are cracked or have loose or bulging lids. Look for any expiration dates on the labels and never buy outdated food. Likewise, check the "use by" or "sell by" dates on dairy products such as cottage cheese, cream cheese, yogurt, and sour cream and pick the ones that will stay fresh longest in your refrigerator.

- Choose eggs that are refrigerated in the store. Before putting them in your cart, open the carton and make sure that none are cracked or leaking.
- Save to the last frozen foods and perishables such as meat, poultry or fish. Always put these products in separate plastic bags so that drippings don't contaminate other foods in your shopping cart.
- Check for cleanliness at the meat or fish counter and the salad bar. For instance, cooked shrimp lying on the same bed of ice as raw fish could be contaminated. When buying from a salad bar, avoid fruits and vegetables that look brownish, slimy, or dried out. These are signs that the product has been held at an improper temperature.
- When shopping for shellfish, buy from markets that get their supplies from state-approved sources; stay clear of vendors who sell shellfish from roadside stands or the back of a truck. And if you're planning to harvest your own shellfish, heed posted warning about the safety of water.
- Take an ice chest along to keep frozen and perishable foods cold if it will take more than two hours to get your groceries home.

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Seniors and Food Safety

Preventing Foodborne Illness

What's Cooking?

Four Simple Steps to Preparing Food Safely at Home



Clean: Wash hands and surfaces often

Bacteria can spread throughout the kitchen and get onto cutting boards, utensils, sponges and counter tops. Here's how to *Fight BAC*:

- Wash your hands with hot soapy water before handling food and after using the bathroom, changing diapers and handling pets.
- Wash your cutting boards, dishes, utensils and counter tops with hot soapy water after preparing each food item and before you go on to the next food.
- Use plastic or other non-porous cutting boards. These boards should be run through the dishwasher -- or washed in hot soapy water -- after use.
- Consider using paper towels to clean up kitchen surfaces. If you use cloth towels, wash them often in the hot cycle of your washing machine.

Separate: Don't cross-contaminate



Cross-contamination is the scientific word for how bacteria can be spread from one food product to another. This is especially true when handling raw meat, poultry and seafood, so keep these foods and their juices away from ready-to-eat foods. Here's how to *Fight BAC*:

- Separate raw meat, poultry and seafood from other foods in your grocery shopping cart and in your refrigerator.
- If possible, use a different cutting board for raw meat products.
- Always wash hands, cutting boards, dishes and utensils with hot soapy water after they come in contact with raw meat, poultry and seafood.
- Never place cooked food on a plate which previously held raw meat, poultry or seafood.

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Cook: Cook to proper temperatures

Food safety experts agree that foods are properly cooked when they are heated for a long enough time and at a high enough temperature to kill the harmful bacteria that cause foodborne illness. The best way to *Fight BAC* is to:

- Use a clean thermometer, which measures the internal temperature of cooked foods, to make sure meat, poultry, casseroles and other foods are cooked all the way through.
- Cook roasts and steaks to at least 145°F. Whole poultry should be cooked to 180°F for doneness.
- Cook ground beef, where bacteria can spread during processing, to at least 160°F. Information from the Centers for Disease Control and Prevention (CDC) link eating undercooked, pink ground beef with a higher risk of illness. If a thermometer is not available, do not eat ground beef that is still pink inside.
- Cook eggs until the yolk and white are firm. Don't use recipes in which eggs remain raw or only partially cooked.
- Fish should be opaque and flake easily with a fork.
- When cooking in a microwave oven, make sure there are no cold spots in food where bacteria can survive. For best results, cover food, stir and rotate for even cooking. If there is no turntable, rotate the dish by hand once or twice during cooking.
- Bring sauces, soups and gravy to a boil when reheating. Heat other leftovers thoroughly to 165°F.



Chill: Refrigerate promptly

Refrigerate foods quickly because cold temperatures keep harmful bacteria from growing and multiplying. So, set your refrigerator no higher than 40°F and the freezer unit at 0°F. Checking these temperatures occasionally with an appliance thermometer. Then, *Fight BAC* by following these steps:

- Refrigerate or freeze perishables, prepared food and leftovers within two hours.
- Never defrost food at room temperature. Thaw food in the refrigerator, under cold running water or in the microwave. Marinate foods in the refrigerator.
- Divide large amounts of leftovers into small, shallow containers for quick cooling in the refrigerator.
- Don't pack the refrigerator. Cool air must circulate to keep food safe.

Additional Tips--Safe Handling of Fruits and Vegetables

- **Wash hands** with warm water and soap for at least 20 seconds before and after handling food, especially fresh whole fruits and vegetables and raw meat, poultry and fish. Clean under fingernails, too.
- **Rinse raw produce in warm water.** Don't use soap or other detergents. If necessary--and appropriate--use a small scrub brush to remove surface dirt.
- **Use smooth, durable and nonabsorbent cutting boards** that can be cleaned and sanitized easily.
- **Wash cutting boards** with hot water, soap and a scrub brush to remove food particles. Then sanitize the boards by putting them through the automatic dishwasher or rinsing them in a solution of 1 teaspoon (5 milliliters) of chlorine bleach to 1 quart (about 1 liter) of water. Always wash boards and knives after cutting raw meat, poultry or seafood and before cutting another food to prevent cross-contamination.
- **Store cut, peeled and broken-apart fruits and vegetables** (such as melon balls) at or below 40 degrees Fahrenheit (5 degrees Celsius)--that is, in the refrigerator.

Apply the Heat ... and *Fight BAC*

Cooking food to the proper temperature kills harmful bacteria. This includes raw meat, poultry, fish and eggs, as well as foods that are thoroughly cooked upon purchase, but that may become contaminated during storage or handling.

Re-heat ready-to-eat foods such as hot dogs, luncheon meats, cold cuts, fermented and dry sausage, and other deli-style meat and poultry products until they are steaming hot. If you cannot re-heat these foods, do not eat them.

Thoroughly cook other foods as follows:

Raw Food	Internal Temperature
Ground Products	
Hamburger	160°F
Beef, veal, lamb, pork	160°F
Chicken, turkey	165°F
Beef, Veal, Lamb	
Roasts & Steaks	
<i>medium-rare</i>	145°F
<i>medium</i>	160°F
<i>well-done</i>	170°F
Pork	
Chops, roast, ribs	
<i>medium</i>	160°F
<i>well-done</i>	170°F
Ham, fresh	160°F
Sausage, fresh	160°F
Poultry	
Chicken, whole & pieces	180°F
Duck	180°F
Turkey (<i>unstuffed</i>)	180°F
<i>Whole</i>	180°F
<i>Breast</i>	170°F
<i>Dark meat</i>	180°F
<i>Stuffing (cooked separately)</i>	165°F
Eggs	
Fried, poached	<i>yolk & white are firm</i>
Casseroles	160°F
Sauces, custards	160°F
<i>This chart has been adapted for home use and is consistent with consumer guidelines from the U.S. Department of Agriculture (USDA) and U.S. Food & Drug Administration (FDA).</i>	

See also: [Can Your Kitchen Pass the Food Safety Test?](#)

Next: [Eating Out & Bringing Food Home](#)

Additional information on [Fight BAC!](#)



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When Someone Else is the Cook-- (Eating Out & Bringing Food Home)

Let's face it. Sometimes it's just easier and more enjoyable to let someone else do the cooking. And for today's seniors there are many eating options. All of these options, however, do have food safety implications that you need to be aware of.

Complete Meals to Go and Home Delivered Meals

When you want to eat at home but don't feel like cooking or aren't able to, where do you turn?

- Many convenience foods, including complete meals to go, are experiencing runaway popularity.
- Purchased from grocery stores, delis or restaurants, some meals are hot and some are cold.
- Ordering delivered meals from restaurants or restaurant-delivery services is an option many consumers like to take advantage of.
- And of course, for those who qualify, there are programs like Meals on Wheels that provide a ready-prepared meal each day.

Hot or cold ready-prepared meals are perishable and can cause illness when mishandled. **Proper handling is essential to ensure the food is safe.**

The 2-Hour Rule

Harmful bacteria can grow rapidly in the "danger zone" (between 40 and 140 degrees F). So remember the 2-hour rule. **Discard any perishable foods left at room temperature longer than 2 hours.**

When you purchase hot cooked food, keep it hot. Eat and enjoy your food with 2 hours to prevent harmful bacteria from multiplying. If you are not eating within 2 hours, keep your food in the oven set at a high enough temperature to keep the food at or above 140 degrees F. (Use a food thermometer to check the temperature.) Stuffing and side dishes must also stay hot. Covering food with foil will help keep it moist.

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Rather than keeping cooked food warming in an oven for an extended period of time, cooked foods will taste better if you refrigerate them and then re-heat when you are ready to eat.

- Divide meat or poultry into small portions to refrigerate or freeze.
- Refrigerate or freeze gravy, potatoes, and other vegetables in shallow containers.
- Remove stuffing from whole cooked poultry and refrigerate.

Cold food should also be eaten within 2 hours or refrigerated or frozen for eating another time.

Reheating?

You may wish to reheat your meal, whether it was purchased hot and then refrigerated or purchased cold initially.

- Heat thoroughly to 165 degrees F until hot and steaming.
- Bring gravy to a rolling boil.
- If heating in a microwave oven, cover food and rotate dish so it heats evenly. Inadequate heating in the microwave can contribute to illnesses. Consult your owner's manual for complete instructions.

Eating Out

Whether you're eating out at an upscale restaurant, a Senior Center, or a fast food diner, this can be both a safe and enjoyable experience if you take the same precautions you would if you were eating at home.

All food service establishments are required to follow sanitation guidelines set by state and local health departments to ensure cleanliness and good hygiene. However, when you go out to eat, look at how clean things are before you ever sit down. Are the tables, dinnerware, and bathrooms neat and tidy? If not, it may be better to dine somewhere else. A dirty dining room may indicate a dirty kitchen, and a dirty kitchen may lead to unsafe food.

Seniors need to avoid the same foods in restaurants that they avoid at home. If you are unsure about the ingredients in a particular dish, ask before ordering it.

No matter where you eat out, always order your food "well done." Remember that foods like meat, poultry, fish, and eggs need to be cooked thoroughly to kill off harmful bacteria. When you're served a meal, check how well it's cooked before you eat it. Make sure it's served to you piping hot and thoroughly cooked, and if it's not, send it back.

The Doggie Bag

It seems like meal portions are getting bigger and bigger these days. Which means that there is another meal waiting for another day. Care must be taken when handling these leftovers.

If you will not be arriving home within 2 hours of finishing your meal, it is safer to leave the leftovers at the restaurant.

Also, remember that the inside of a car can get very warm. Bacteria may grow rapidly, so it is always safer to go directly home after eating and put your leftovers in the refrigerator.

Some Senior Centers that provide meals do not allow food to be taken away from the site because they know how easy it is for bacteria to multiply to dangerous levels when food is left unrefrigerated too long. Check with your center for its policy on taking leftovers home.

Next: [Taking Care of Infants and Young Children](#)



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When Grandparents Take Care of Grandchildren: What You Need to Know About Food Safety and Young Children

You've probably seen the T-shirts that read: "If I'd known how much fun it is to have grandchildren, I would have had them first." Well, it is fun when grandchildren come to visit, or if you regularly lend a hand with their care. But as you know, the care and feeding of grandchildren is also a major responsibility.

Many of the feeding practices you probably used with your own children are no longer advocated for today's infants and toddlers. So let's take a look at the food safety implications of feeding special new person in your life.

The Latest, Safest Information on Feeding Infants and Young Children

Keep It Clean—Always begin formula and food preparation by washing your hands. According to a Penn State University study of mothers with infants less than 4 months old,

- 32% said they don't wash their hands after changing their baby's diaper;
- about 15% said they don't wash their hands after they went to the bathroom;
- about 10% don't wash their hands after handling raw meat;
- about 41% don't wash their hands after petting animals; and
- about 5% didn't wash their hands after gardening or working with soil.

Did you know that not washing hands could result in infant diarrhea because: Bacteria can grow

- on diapers;
- in your feces and urine;
- in raw meat, poultry, seafood and eggs;
- on animals like dogs, cats, turtles, snakes and birds; and

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- in soil and water.

Handling Baby's Food Safely



Harmful bacteria from a baby's mouth can be introduced into food or bottles where it can grow and multiply even after refrigeration and reheating. If the baby does not finish a bottle, do not put it back in the refrigerator for another time.

Likewise, do not feed a baby from a jar of baby food and put it back in the refrigerator for another time. Saliva on the spoon contaminates the remaining food.

Perishable items like milk, formula or food left out of the refrigerator or without a cold source for more than 2 hours should not be used.

When traveling with baby,

- transport bottles and food in an insulated cooler.
 - Place the ice chest in the passenger compartment of the car. It's cooler than in the trunk.
 - Use frozen gel packs to keep food or bottles cold on long outings.
- Do not keep bottles or food in the same bag with dirty diapers.

Follow the manufacturer's recommendations for preparing bottles before filling with formula or milk. Observe "Use-by" dates on formula cans. See baby food safe storage chart for detailed information. Don't feed a baby anything kept longer.

Those interested in health foods may consider using honey as a sweetener to entice babies to drink water from a bottle. Honey is not safe for children less than a year old. It can contain the botulinum organism that could cause illness or death. Raw or unpasteurized milk should not be served to infants and children.

If making homemade baby food, use a brush to clean areas around the blender blades or food processor parts. Old food particles can harbor harmful bacteria that may contaminate other foods.

Use detergent and hot water to wash and rinse all utensils (including the can opener) which come in contact with baby's foods.

If using commercial baby foods, check to see if the safety button on the lid is down. If the jar lid doesn't "pop" when opened, do not use. Discard jars with chipped glass or rusty lids.

To freeze homemade baby food, put the mixture in an ice cube tray. Cover with heavy-duty plastic wrap until the food is frozen. Then pop food cubes into a freezer bag or airtight container and date it. Store up to 3 months. One cube equals one serving.

SAFE STORAGE OF BABY FOOD

NOTE: Don't leave baby food solids or liquids out at room temperature for more than 2 hours.

	Refrigerator	Freezer
LIQUIDS		
Expressed breast milk	5 days	3 to 4 months
Formula	2 days	not recommended
Whole milk	5 days	3 months
Reconstituted evaporated milk	3 to 5 days	not recommended

SPECIAL HANDLING

1. For shelf storage of unopened cans of formula, observe "Use by" dates printed on containers. Store evaporated milk up to 12 months.
2. Heat liquid in disposable bottles in hot tap water, not in the microwave.
3. If heating glass or hard plastic bottles in the microwave, remove the cap and nipple first.
4. Shake bottle before testing the temperature on top of your hand.
5. Discard any unused milk left in a bottle.

	Refrigerator	Freezer
SOLIDS - opened or freshly made		
Strained fruits and vegetables	2 to 3 days	6 to 8 months
Strained meats and eggs	1 day	1 to 2 months
Meat/vegetable combinations	1 to 2 days	1 to 2 months
Homemade baby foods	1 to 2 days	3 to 4 months

SPECIAL HANDLING

1. Observe "Use by" date for shelf storage of unopened jars.
2. Check to see that the safety button in lid is down. If the jar lid does not "pop" when opened or is not sealed safely, do not use.
3. Do not heat meats, meat sticks, eggs or jars of food in the microwave.
4. Transfer food from jars to bowls or heating dish. For 4 ounces of food, microwave on high 15 seconds; stir and let stand 30 seconds.
5. Stir and test the temperature of the foods before feeding baby.
6. Don't feed a baby from the jar.

Small jars can also be used for freezing. Leave about ½ inch of space at the top because food expands when frozen.

Next: [Can Your Kitchen Pass the Food Safety Test?](#)



Clean



Separate



Cook



Chill

FDA/Center for Food Safety and Applied Nutrition, May 1999

Developed in cooperation with AARP

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U. S. Department of Health and Human Services

U. S. Food and Drug Administration

FDA Consumer

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Can Your Kitchen Pass the Food Safety Test?

What comes to mind when you think of a clean kitchen? Shiny waxed floors? Gleaming stainless steel sinks? Spotless counters and neatly arranged cupboards?

They can help, but a truly "clean" kitchen--that is, one that ensures safe food--relies on more than just looks: It also depends on safe food practices.

In the home, food safety concerns revolve around three main functions: food storage, food handling, and cooking. To see how well you're doing in each, take this quiz, and then read on to learn how you can make the meals and snacks from your kitchen the safest possible.

Quiz

Choose the answer that best describes the practice in your household, whether or not you are the primary food handler.

1. The temperature of the refrigerator in my home is:

- a. 50 degrees Fahrenheit (10 degrees Celsius)
- b. 40 F (5 C)
- c. I don't know; I've never measured it.

2. The last time we had leftover cooked stew or other food with meat, chicken or fish, the food was:

- a. cooled to room temperature, then put in the refrigerator
- b. put in the refrigerator immediately after the food was served
- c. left at room temperature overnight or longer

3. The last time the kitchen sink drain, disposal and connecting pipe in my home were sanitized was:

- a. last night
- b. several weeks ago
- c. can't remember

4. If a cutting board is used in my home to cut raw meat, poultry or fish and it is going to be used to chop another food, the board is:

- a. reused as is
- b. wiped with a damp cloth
- c. washed with soap and hot water
- d. washed with soap and hot water and then sanitized

5. The last time we had hamburgers in my home, I ate mine:

- a. rare (140 F)
- b. medium (160 F)
- c. well-done (170 F)

6. The last time there was cookie dough in my home, the dough was:

- a. made with raw eggs, and I sampled some of it
- b. made with raw eggs and refrigerated, then I sampled some of it

- c. store-bought, and I sampled some of it
- d. not sampled until baked

7. I clean my kitchen counters and other surfaces that come in contact with food with:

- a. water
- b. hot water and soap
- c. hot water and soap, then bleach solution
- d. hot water and soap, then commercial sanitizing agent

8. When dishes are washed in my home, they are:

- a. washed and dried in an automatic dishwasher
- b. left to soak in the sink for several hours and then washed with soap in the same water
- c. washed right away with hot water and soap in the sink and then air-dried
- d. washed right away with hot water and soap in the sink and immediately towel-dried

9. The last time I handled raw meat, poultry or fish, I cleaned my hands afterwards by:

- a. wiping them on a towel
- b. rinsing them under hot, cold or warm tap water
- c. washing with soap and warm water

10. Meat, poultry and fish products are defrosted in my home by:

- a. setting them on the counter
- b. placing them in the refrigerator
- c. microwaving

11. When I buy fresh seafood, I:

- a. buy only fish that's refrigerated or well iced
- b. take it home immediately and put it in the refrigerator
- c. sometimes buy it straight out of a local fisher's creel

12. I realize people, including myself, should be especially careful about not eating raw seafood, if they have:

- a. diabetes
- b. HIV infection
- c. cancer
- d. liver disease

Answers

1. Refrigerators should stay at 40 F (5 C) or less, so if you chose answer B, give yourself two points. If you didn't, you're not alone. According to Robert Buchanan, Ph.D., senior science adviser and director of science in the Food and Drug Administration's Center for Food Safety and Applied Nutrition, many people overlook the importance of maintaining an appropriate refrigerator temperature.

"According to surveys, in many households, the refrigerator temperature is above 50 degrees (10 C)," he said.

His advice: Measure the temperature with a thermometer and, if needed, adjust the refrigerator's temperature control dial.

A temperature of 40 F (5 C) or less is important because it slows the growth of most bacteria. The temperature won't kill the bacteria, but it will keep them from multiplying, and the fewer there are, the less likely you are to get sick.

Freezing at zero F (minus 18 C) or less stops bacterial growth (although it won't kill bacteria already present).

2. Answer B is the best practice; give yourself two points if you picked it.

Hot foods should be refrigerated as soon as possible within two hours after cooking. But don't keep the food if it's been standing out for more than two hours. Don't taste test it, either. Even a small amount of contaminated food can cause illness.

Date leftovers so they can be used within a safe time. Generally, they remain safe when refrigerated for three to five days. If in doubt, throw it out, says FDA microbiologist Kelly Bunning, Ph.D., associate senior science adviser in CFSAN: "It's not worth a foodborne illness for the small amount of food usually involved."

3. If answer A best describes your household's practice, give yourself two points. Give yourself one point if you chose B.

According to John Guzewich, CFSAN's director of emergency coordination and response, the kitchen sink drain, disposal and connecting pipe are often overlooked, but they should be sanitized periodically by pouring down the sink a solution of 1 teaspoon (5 milliliters) of chlorine bleach in 1 quart (about 1 liter) of water or a solution of commercial kitchen cleaning agent made according to product directions. Food particles get trapped in the drain and disposal and, along with the moistness, create an ideal environment for bacterial growth.

4. If answer D best describes your household's practice, give yourself two points.

If you picked A, you're violating an important food safety rule: Never allow raw meat, poultry and fish to come in contact with other foods. Answer B isn't good, either. Improper washing, such as with a damp cloth, will not remove bacteria. And washing only with soap and water may not do the job, either.

To prevent cross-contamination from a cutting board, the FDA advises consumers to follow these practices:

- Use smooth cutting boards made of hard maple or a non-porous material such as plastic and free of cracks and crevices. These kinds of boards can be cleaned easily. Avoid boards made of soft, porous materials.
- Wash cutting boards with hot water, soap, and a scrub brush to remove food particles. Then sanitize the boards by putting them through the automatic dishwasher or rinsing them in a solution of 1 teaspoon (5 milliliters) of chlorine bleach in 1 quart (about 1 liter) of water.
- Always wash and sanitize cutting boards after using them for raw foods and before using them for ready-to-eat foods. Consider using one cutting board only for foods that will be cooked, such as raw fish, and another only for ready-to-eat foods, such as bread, fresh fruit, and cooked fish. Disposable cutting boards are a newer option, and can be found in grocery and discount chain stores.

5. Give yourself two points if you picked answer B or C.

Ground beef must be cooked to an internal temperature of 160 degrees Fahrenheit (71 degrees Celsius). Using a digital or dial food thermometer is crucial, the U.S. Department of Agriculture says, because research results indicate that some ground meat may prematurely brown before a safe internal temperature has been reached. On the other hand, research findings also show that some ground meat patties cooked to 160 F or above may remain pink inside for a number of reasons; thus the color of meat alone is not considered a reliable indicator of ground beef safety. If eating out, order your ground beef to be cooked well-done. Temperatures for other foods to reach to be safe include:

- beef, lamb and veal--145 F (63 C)
- pork and ground beef--160 F (71 C)
- whole poultry and thighs--180 F (82 C)
- poultry breasts--170 F (77 C)
- ground chicken or ground turkey--165 F (74 C).

Seafood should be thoroughly cooked to an internal temperature of at least 145 F (63 C). Fish that's ground or flaked, such as a fish cake, should be cooked to at least 155 F (68 C), and stuffed fish to at least 165 F (74 C).

If you don't have a meat thermometer, there are other ways to determine whether seafood is done:

- For fish, slip the point of a sharp knife into the flesh and pull aside. The edges should be opaque and the center slightly translucent with flakes beginning to separate. Let the fish stand three to four minutes to finish cooking.
- For shrimp, lobster and scallops, check color. Shrimp and lobster turn red and the flesh becomes pearly opaque. Scallops turn milky white or opaque and firm.
- For clams, mussels and oysters, watch for the point at which their shells open. Boil three to five minutes longer. Throw out those that stay closed.

When using the microwave, rotate the dish several times to ensure even cooking. Follow recommended standing times. After the standing time is completed, check the seafood in several spots with a meat thermometer to be sure the product has reached the proper temperature.

6. If you answered A or B, you may be putting yourself at risk for infection with *Salmonella Enteritidis*, a bacterium that can be inside shell eggs. Cooking the egg or egg-containing food product to an internal temperature of at least 160 F (71 C) kills the bacteria. Refrigerating will not kill the bacteria. So answer D--eating the baked product--will earn you two points.

Other foods containing raw eggs, such as homemade ice cream, cake batter, mayonnaise, and eggnog, carry a Salmonella risk too. Their commercial counterparts are usually made with pasteurized eggs; that is, eggs that have been heated sufficiently to kill bacteria, and also may contain an acidifying agent that kills the bacteria. But the best practice, even when using products containing pasteurized eggs, is to eat the foods only as they are intended to be eaten, so answer C, sampling the unbaked store-bought cookie dough, will not earn you any points.

Consider using pasteurized eggs for homemade recipes that do not include a cooking step, such as eggnog or Caesar salad dressing. Pasteurized eggs are usually sold in the grocer's refrigerated dairy case.

Some other tips to ensure egg safety:

- Buy only refrigerated eggs, and keep them refrigerated until you are ready to cook and serve them.
- Cook eggs thoroughly until both the yolk and white are firm, not runny, and scramble until there is no visible liquid egg.
- Cook pasta dishes and stuffings that contain eggs thoroughly.

7. Answers C or D will earn you two points each; answer B, one point. According to FDA's Guzewich, bleach and commercial kitchen cleaning agents are the best sanitizers--provided they're diluted according to product directions. They're the most effective at getting rid of bacteria. Hot water and soap does a good job, too, but may not kill all strains of bacteria. Water alone may get rid of visible dirt, but not bacteria.

Also, be sure to keep dishcloths clean because, when wet, they can harbor bacteria and may promote their growth.

8. Answers A and C are worth two points each. There are potential problems with B and D. When you let dishes sit in water for a long time, it "creates a soup," FDA's Buchanan says. "The food left on the dish contributes nutrients for bacteria, so the bacteria will multiply." When washing dishes by hand, he says, it's best to wash them all within two hours. Also, it's best to air-dry them so you don't handle them while they're wet.

9. The only correct practice is answer C. Give yourself two points if you picked it.

Wash hands with warm water and soap for at least 20 seconds before and after handling food, especially raw meat, poultry and fish. If you have an infection or cut on your hands, wear rubber or plastic gloves. Wash gloved hands just as often as bare hands because the gloves can pick up bacteria. (However, when washing gloved hands, you don't need to take off your gloves and wash your bare hands, too.)

10. Give yourself two points if you picked B or C. Food safety experts recommend thawing foods in the refrigerator or the microwave oven, or putting the package in a water-tight plastic bag submerged in cold water and changing the water every 30 minutes. Gradual defrosting overnight in the refrigerator is best because it helps maintain quality.

When microwaving, follow package directions. Leave about 2 inches (about 5 centimeters) between the food and the inside surface of the microwave to allow heat to circulate. Smaller items will defrost more evenly than larger pieces of food. Foods defrosted in the microwave oven should be cooked immediately after thawing.

Do not thaw meat, poultry and fish products on the counter or in the sink without cold water; bacteria can multiply rapidly at room temperature.

Similarly, marinate food in the refrigerator, not on the counter. Discard the marinade after use because it contains raw juices, which may harbor bacteria. If you want to use the marinade as a dip or sauce, reserve a portion before adding raw food.

11. A and B are correct. Give yourself two points for either.

When buying fresh seafood, buy only from reputable dealers who keep their products refrigerated or properly iced. Be wary, for example, of vendors selling fish out of their creel (canvas bag) or out of the back of their truck.

Once you buy the seafood, immediately put it on ice, in the refrigerator, or in the freezer.

Some other tips for choosing safe seafood:

- Don't buy cooked seafood, such as shrimp, crabs or smoked fish, if displayed in the same case as raw fish. Cross-contamination can occur. Or, at least, make sure the raw fish is on a level lower than the cooked fish so that the raw fish juices don't flow onto the cooked items and contaminate them.
- Don't buy frozen seafood if the packages are open, torn or crushed on the edges. Avoid packages that are above the frost line in the store's freezer. If the package cover is transparent, look for signs of frost or ice crystals. This could mean that the fish has either been stored for a long time or thawed and refrozen.
- Recreational fishers who plan to eat their catch should follow state and local government advisories about fishing areas and eating fish from certain areas.
- As with meat and poultry, if seafood will be used within two days after purchase, store it in the coldest part of the refrigerator, usually under the freezer compartment or in a special "meat keeper." Avoid packing it in tightly with other items; allow air to circulate freely around the package. Otherwise, wrap the food tightly in moisture-proof freezer paper or foil to protect it from air leaks and store in the freezer.
- Discard shellfish, such as lobsters, crabs, oysters, clams, and mussels, if they die during storage or if their shells crack or break. Live shellfish close up when the shell is tapped.

12. If you are under treatment for any of these diseases, as well as several others, you should avoid raw seafood. Give yourself two points for knowing one or more of the risky conditions.

People with certain diseases and conditions need to be especially careful because their diseases or the medicines they take may put them at risk for serious illness or death from contaminated seafood.

These conditions include:

- liver disease, either from excessive alcohol use, viral hepatitis, or other causes
- hemochromatosis, an iron disorder
- diabetes
- stomach problems, including previous stomach surgery and low stomach acid (for example, from antacid use)
- cancer
- immune disorders, including HIV infection
- long-term steroid use, as for asthma and arthritis.

Older adults also may be at increased risk because they more often have these conditions.

People with these diseases or conditions should never eat raw seafood--only seafood that has been thoroughly cooked.

Rating Your Home's Food Practices

24 points: Feel confident about the safe food practices you follow in your home.

12 to 23 points: Reexamine food safety practices in your home. Some key rules are being violated.

11 points or below: Take steps immediately to correct food handling, storage and cooking techniques used in your home. Current practices are putting you and other members of your household in danger of foodborne illness.

Other Kitchen Contaminants

Lead

Lead leached from some types of ceramic dinnerware into foods and beverages is often consumers' biggest source of dietary lead, says John Jones, Ph.D., in the FDA's Center for Food Safety and Applied Nutrition. (See "Lead Threat Lessens, But Mugs Pose Problem" in the April 1993 *FDA Consumer* and "[An Unwanted Souvenir: Lead in Ceramic Ware](#)" in the December 1989-January 1990 *FDA Consumer*.) Here are some tips to reduce your exposure:

- Don't store acidic foods, such as fruit juices, in ceramic containers.
- Avoid or limit to special occasions the use of antique or collectible housewares for food and beverages.
- Follow label directions on ornamental ceramic products labeled "Not for Food Use--May Poison Food" or "For Decorative Purposes Only," and don't use these items for preparing or storing food.

Also, don't store beverages in lead crystal containers for extended periods.

Microwave Packaging

High temperature use of some microwave food packaging material may cause packaging components, such as paper, adhesives and polymers, to migrate into food at excessive levels. For that reason, choose only microwave-safe cooking containers. Never use packaging cartons for cooking unless the package directs you to do so. (See "Keeping Up with the Microwave Revolution" in the March 1990 *FDA Consumer*.)

Aluminum

According to the FDA's Jones, there has been speculation linking aluminum to Alzheimer's disease. The link has never been proved, he said, but if consumers are concerned, they should avoid cooking acidic foods, such as tomato sauce, in aluminum pans. For other uses, well-maintained aluminum pans--as well as stainless steel, copper and iron pots and pans--present no apparent hazards.

Insects, Rodents and Dirt

- Avoid storing food in cabinets that are under the sink or have water, drain and heating pipes passing through them. Food stored here can attract insects and rodents through openings that are difficult to seal adequately.
- Wash the tops of cans with soap and water before opening.

Home-Based Foodborne Illness

When several members of a household come down with sudden, severe diarrhea and vomiting, intestinal flu is often considered the likely culprit. But food poisoning may be another consideration.

A true diagnosis is often never made because the ill people recover without having to see a doctor.

Health experts believe this is a common situation in households across the country, and because a doctor is often not seen for this kind of illness, the incidence of foodborne illness is not really known.

An estimated 76 million cases of foodborne disease occur each year in the United States. The great majority of these cases are mild and cause symptoms for only a day or two. Some cases are more serious, and the Centers for Disease Control and Prevention estimates that there are 325,000 hospitalizations and 5,000 deaths related to foodborne diseases each year. The most severe cases tend to occur in the very old, the very young, those who have an illness already that reduces their immune system function, and in healthy people exposed to a very high dose of an organism.

Cases of home-based foodborne illness may become a bigger problem, some food safety experts say, partly because today's busy family may not be as familiar with food safety issues as more home-focused families of past generations.

The increased use of convenience foods, which often are preserved with special chemicals and processes, also complicates today's home food safety practices, says Robert Buchanan, Ph.D., senior science advisor and director of science in the FDA's Center for Food Safety and Applied Nutrition. These foods, such as TV dinners, which are specially preserved, give consumers a false idea that equivalent home-cooked foods are equally safe, he says.

To curb the problem, food safety experts recommend food safety education emphasizing the principles of HACCP (Hazard Analysis and Critical Control Point), a new food safety procedure that many food companies are now incorporating into their manufacturing processes. Unlike past practices, HACCP focuses on preventing foodborne hazards, such as microbial contamination, by identifying points at which hazards can be introduced into the food and then controlling and monitoring these potential problem areas. (See "[HACCP: Patrolling for Food Hazards](#)" in the January-February 1995 *FDA Consumer*.)

"It's mainly taking a common-sense approach towards food safety in the home," says Buchanan. "Basically, consumers need to make sure they're not defeating the system by contaminating the product."

More Information

[FDA's Food Information Line](#)

1-888-SAFEFOOD (1-888-723-3366)

Recorded messages 24 hours a day, every day. FDA public affairs specialists available 10 a.m. to 4 p.m. Eastern time, Monday through Friday.

[USDA's Meat and Poultry Hotline](#)

1-800-535-4555

TTY 1-800-256-7072

Recorded messages in English and Spanish available 24 hours a day. Home economists and registered dietitians available 10 a.m. to 4 p.m. Eastern time, Monday through Friday.

[FoodSafety.Gov](#)

A gateway website that provides links to selected government food safety-related information.

Also check with:

- your supermarket or its consumer affairs department

- your local county extension home economist
- local health departments
- food manufacturers

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Seniors and Food Safety

Preventing Foodborne Illness

Additional Links for Seniors

- Access America for Seniors
 - [Health and Nutrition](#)
- American Association of Retired Persons (AARP)
 - [Health and Wellness](#)
- Food and Drug Administration
 - [A Lifetime of Good Health](#)
- US Department of Agriculture
 - [Food, Nutrition, and Consumer Services](#)

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