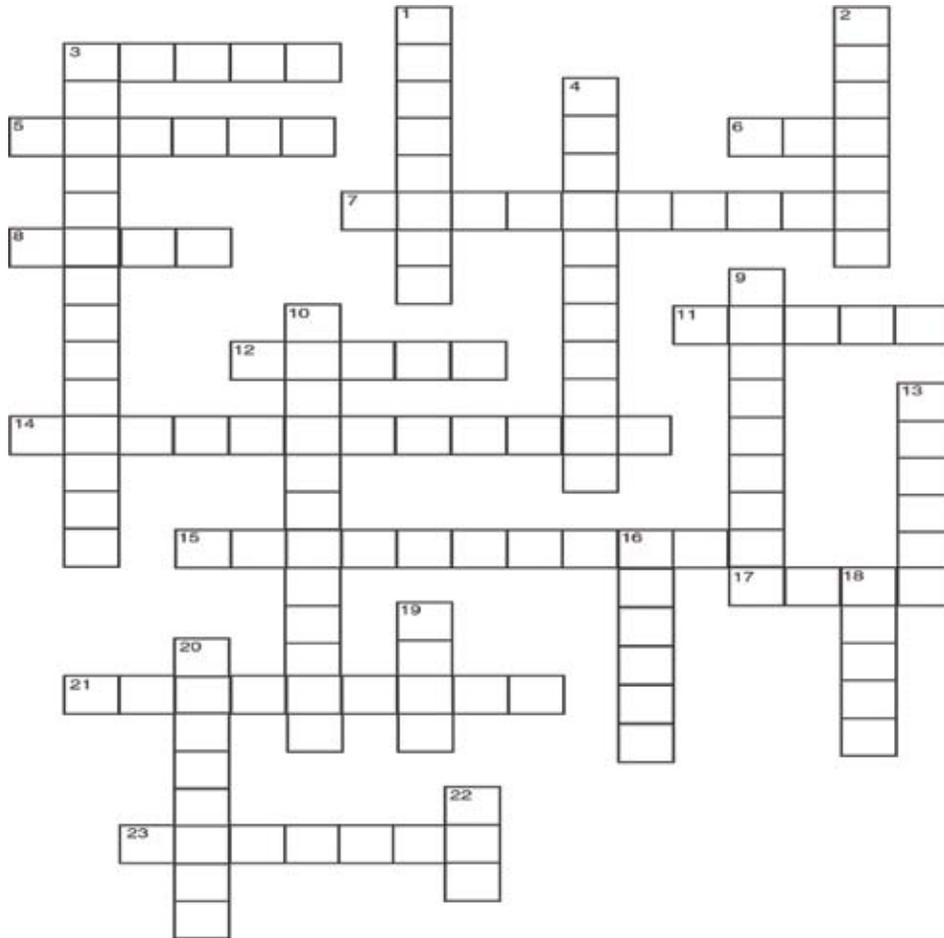




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# Food Safety Puzzle

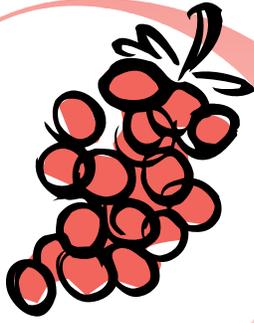


## ACROSS

3. Always put cooked food on a \_\_\_\_\_ plate.
5. Fish is done when it \_\_\_\_\_ with a fork.
6. Foodborne illness can be mistaken for this.
7. Temperature range between 40 F and 140 F in which bacteria grow rapidly. (2 words)
8. Cook eggs until they are this.
11. These foods may have bacteria that cause illness.
12. Store raw ground meat \_\_\_\_\_ raw vegetables in your refrigerator.
14. To prevent foodborne illness, keep foods at safe \_\_\_\_\_ .
15. What should you use to check the internal temperature of a food?
17. Keep food \_\_\_\_\_ to eat.
21. "Foodborne illness" is a newer term for food \_\_\_\_\_ .
23. Refrigerate leftover foods in what kinds of containers?

## DOWN

1. To prevent cross-contamination, you should \_\_\_\_\_ some foods.
2. \_\_\_\_\_ can be passed from one person to another due to poor personal hygiene.
3. Mix this with water for an inexpensive sanitizer. (2 words)
4. One source of *Escherichia coli* is \_\_\_\_\_ ground beef.
9. These should be heated to 165 F.
10. Frozen foods should be thawed in the what?
13. This system weakens as we age.
16. For how many minutes should you wash your hands?
18. Temperature at which your refrigerator should be set.
19. Foods can be frozen in this.
20. This is often a symptom of foodborne illness.
22. Cooked foods should be at room temperature no longer than \_\_\_\_\_ hours.

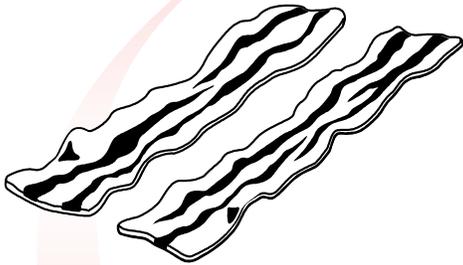


# To Your Health!

## Food Safety for Seniors

*Janie Burney*  
*Associate Professor*  
*Family and Consumer Sciences*

You've had a lot of experience buying and preparing food. Studies show that older adults do a better job of handling food safely than other age groups. So, why do you need to be concerned about food safety? We all need to be more careful with foods because where and how we produce our foods has changed. In addition, your ability to resist foodborne illness has probably also changed as you have gotten older.



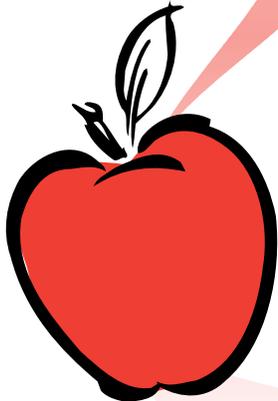
### *What do you know about foodborne illness?*

Food poisoning, or what is now called "foodborne illness," can be a serious problem for older adults. It's important that you know how to prevent illness from the food you eat. See how much you know by answering the questions on the Food Safety Quiz. Answers are given on the page 18 of this publication.



### *Food Safety Quiz*

1. How many people get foodborne illness in the United States each year?
  - a. 10 million
  - b. 25 million
  - c. 76 million
2. How long does it take to become sick after eating harmful bacteria in food?
  - a. 2 hours
  - b. 24 hours
  - c. 20 minutes to 6 weeks
3. You can be sure to kill all bacteria by cooking food thoroughly.
  - a. True
  - b. False



*An ounce of prevention is worth a pound of cure.*



4. Which of the following people are more likely to get foodborne illness?
  - a. People over 65
  - b. Teenagers
  - c. Young adults
  
5. At what temperature should you set your refrigerator?
  - a. 40 F
  - b. 50 F
  - c. 60 F

### Times Have Changed

The way we grow, purchase and prepare our food has changed. People used to grow food close to home. You probably bought food from a local farmer and prepared it your kitchen. Now your food comes from across the country and across the world. Today people eat more food prepared away from home. These changes have increased your risk for foodborne illness.

We also know more about bacteria in food than we did a few years ago. Before outbreaks of *Escherichia coli* 0157:H7, we knew little about the risks of eating undercooked ground meat. Today we know that some kinds of illnesses you normally do not associate with food, such as arthritis, may be caused by harmful bacteria in food.

Seniors are more likely to get sick from harmful bacteria in food compared to other age groups. Once they become sick, they are more likely than others to have serious health problems.

Why are seniors more susceptible to foodborne illness? As we age, our immune systems weaken and the amount of acid our stomachs produce decreases. Stomach acid helps reduce the number of bacteria in our intestinal tracts. With age we also are more likely to develop chronic diseases, such as diabetes and cancer, that lower immunity. Medications, such as anti-inflammatory drugs, also suppress the immune system. These factors decrease a senior's ability to prevent infection and increase the chances of serious complications.

Today, food in your grocery store comes from all over the world.



## Is it Food or the Flu?

Experts believe 76 million people or more develop foodborne illness each year in the United States. It's very possible that even more people become sick from food because it often goes unreported or is mistaken for the flu. The symptoms of foodborne illness and how quickly you become sick depend on the type of bacteria and how much you ingest.

Symptoms of foodborne illness commonly involve the gastrointestinal tract. Whereas abdominal pain, vomiting and diarrhea are common complaints with foodborne illness, respiratory problems, such as cough and chest congestion, are common symptoms of the flu. However, you can have flu-like symptoms, such as fever, headache and body aches, with foodborne illness.

## You Have Changed

How soon you become ill after you have eaten can vary from 20 minutes to six weeks. Usually, it takes bacteria one to three days to make you feel sick.

You can't see, smell or taste harmful bacteria in food, and sometimes you don't know if it's the flu or something you've eaten. The only way you can be sure is to see a doctor for tests. If you suspect you are ill from food, it is best to see a doctor, especially when symptoms are severe. This can prevent the development of more serious health problems.

## The Five Basic Rules

Despite how things have changed, you can feel safe eating food in the United States. We have one of the safest food supplies in the world. However, how you handle food is important. Food safety experts recommend following these basic rules:

- **Practice personal hygiene.**
- **Avoid cross-contamination.**
- **Cook foods adequately.**
- **Keep foods at safe temperatures.**
- **Avoid foods from unsafe sources.**

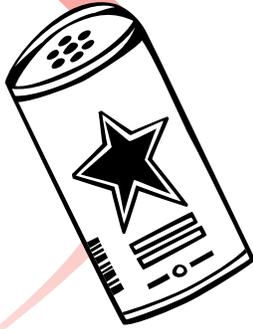


*You can become sick anytime from 20 minutes to six weeks after eating.*



# Practice Personal Hygiene

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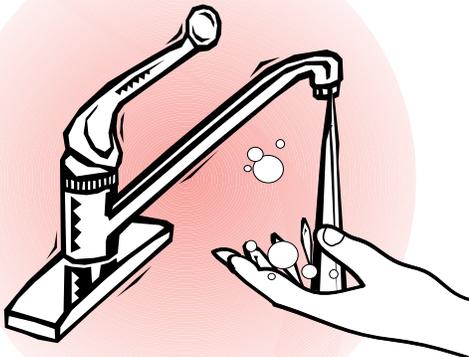


Safe food handling begins with personal hygiene. Individuals infected with bacteria or viruses can pass them to others through food, particularly foods that require no further cooking. Here's how to avoid passing germs to others when preparing food.

- Wash your hands with warm running water and soap for about 20 seconds before handling food. Wash after using the bathroom, changing diapers and handling pets. Always rinse well and dry hands on a clean or disposable towel.
- Avoid preparing food for others if you are ill with diarrhea.
- Cover cuts and burns on your hands with clean bandages and gloves when handling food.
- Handle foods with utensils rather than your hands when possible.

Rule 1  
Practice

## PERSONAL HYGIENE



## Avoid Cross-Contamination

---

Cross-contamination happens when bacteria spread from one food to another. It can be prevented by keeping foods that may have harmful bacteria, such as raw meat, poultry and seafood, away from other foods. These foods and their juices should not touch foods that will not be cooked. Here's how to avoid the spread of bacteria by cross-contamination.

- Wash your counter tops, cutting boards, dishes and utensils with hot water and soap after they have come in contact with raw meat, poultry and seafood. After washing and rinsing, sanitize with one teaspoon of chlorine bleach mixed with 1 quart of clean water.

For more thorough cleaning, sanitize your sink and sponges about three times a week in chlorine bleach and water. Use 1 cup of chlorine bleach in a sink of clean water. Soak sponges about 10 minutes and drain the sink.

- Wash your hands with soap and warm running water after handling raw and potentially hazardous food such as raw meat, poultry, seafood and eggs.
- Change dishcloths and cloth towels often and wash them in the hot cycle of your washing machine. Dry sponges, dishcloths and



towels thoroughly after each use. Air-dry dishes, or consider using paper towels.

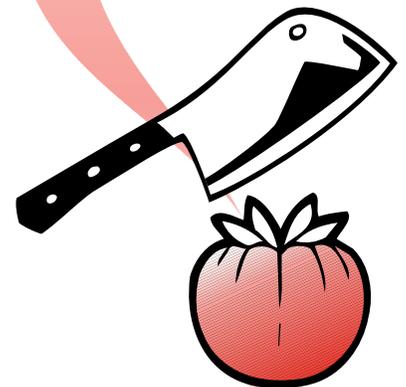
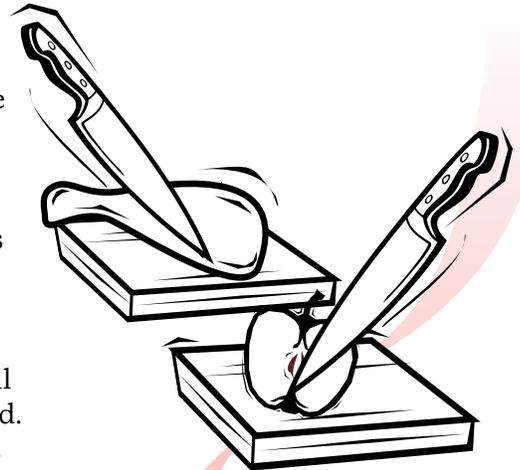
- Replace worn cutting boards that have hard-to-clean grooves with newer boards.
- Rinse produce in clean water. Use a vegetable brush if necessary to remove soil, but don't use soap or detergents.
- Separate raw meat, poultry and seafood from other foods in your grocery-shopping cart, shopping bags and in your refrigerator.
- Place cooked food on clean plates.

*Separate raw meat, poultry and seafood from other foods.*

## Cook Foods Adequately

Cooking food long enough at a high enough temperature will kill most harmful bacteria. Here's how to avoid foodborne illness from undercooked food.

- Cook foods until they reach the safe temperatures shown in the table, "Apply the Heat."
- Use a clean food thermometer to measure the internal temperature of a cooked food. This is a better way to tell when food is done than how long it cooks or how it looks. You will avoid overcooking and food will be more flavorful.
- Cook eggs until the yolk and white are firm. Be sure recipes call for cooking eggs instead of leaving them raw or partially cooked. (For more information on egg safety, see Extension publication, "Egg University Handbook," SP494.)
- Cook fish until flesh is no longer transparent and flakes easily with a fork. Cook shellfish until the shell opens and the flesh is fully cooked.
- Cover food, stir and rotate the dish once or twice during cooking in a microwave oven. This eliminates cold spots where bacteria can survive. Let food stand for a few minutes with the oven off to complete the cooking process. (For more information on cooking in a microwave oven, see Extension publication, "Microwave Handbook," SP493.)
- Reheat foods to 165 F. Bring sauces, soup and gravy to a boil.



*Rule  
Two*

**Avoid CROSS-CONTAMINATION**

## Apply the Heat!

Cooking food — especially raw meat, poultry, fish and eggs — to the proper temperature kills harmful bacteria. Thoroughly cook food as follows:\*

### Raw Food

### Internal Temperature

#### Ground Products

|                        |       |
|------------------------|-------|
| Beef, veal, lamb, pork | 160 F |
| Chicken, turkey        | 165 F |

#### Beef, Veal, Lamb Roasts & Steaks

|             |       |
|-------------|-------|
| medium-rare | 145 F |
| medium      | 160 F |
| well-done   | 170 F |

#### Pork

|                    |       |
|--------------------|-------|
| Chops, roast, ribs |       |
| medium             | 160 F |
| well-done          | 170 F |
| Ham, fully cooked  | 140 F |
| Ham, fresh         | 160 F |
| Sausage, fresh     | 160 F |

#### Poultry (Turkey & Chicken)

|                                 |       |
|---------------------------------|-------|
| Whole poultry and poultry parts | 165 F |
| Stuffing (cooked separately)    | 165 F |

#### Eggs

|                  |                       |
|------------------|-----------------------|
| Fried, poached   | yolk & white are firm |
| Casseroles       | 160 F                 |
| Sauces, custards | 160 F                 |

#### Fish

flakes with a fork

\*This chart provides guidance for cooking foods at home.

Source: To Your Health! Food Safety for Seniors, FDA and USDA, 2000.

Rule  
Three

Harmful  
bacteria can grow  
rapidly in the  
"danger zone."

COOK FOODS ADEQUATELY

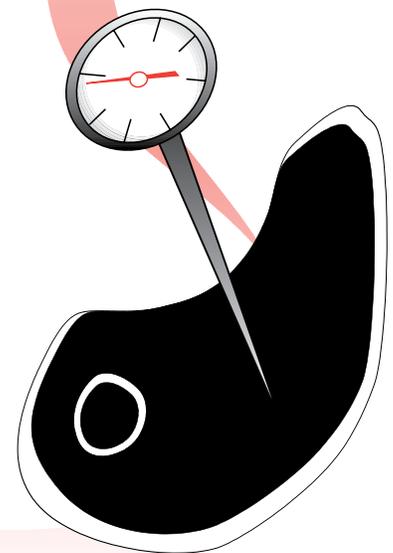


# Keep Foods at Safe Temperatures

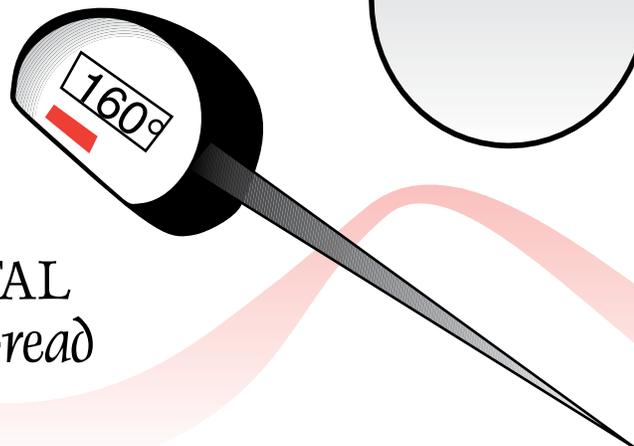
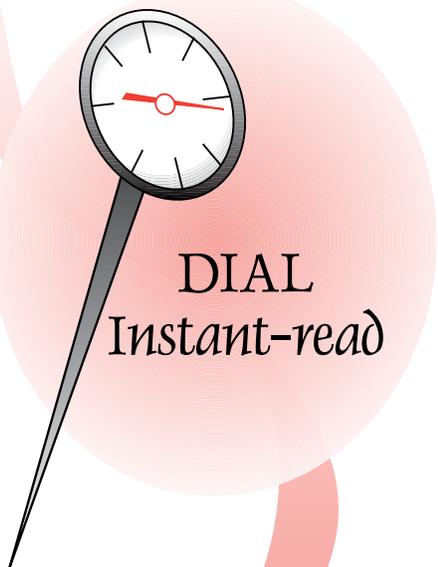
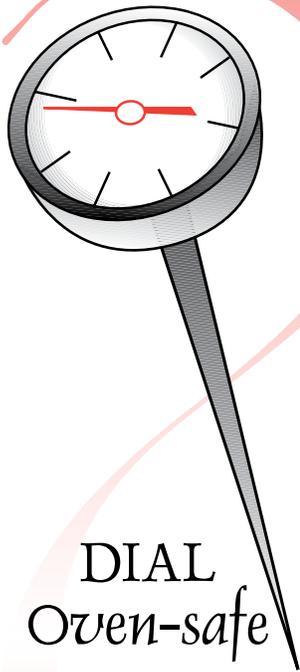
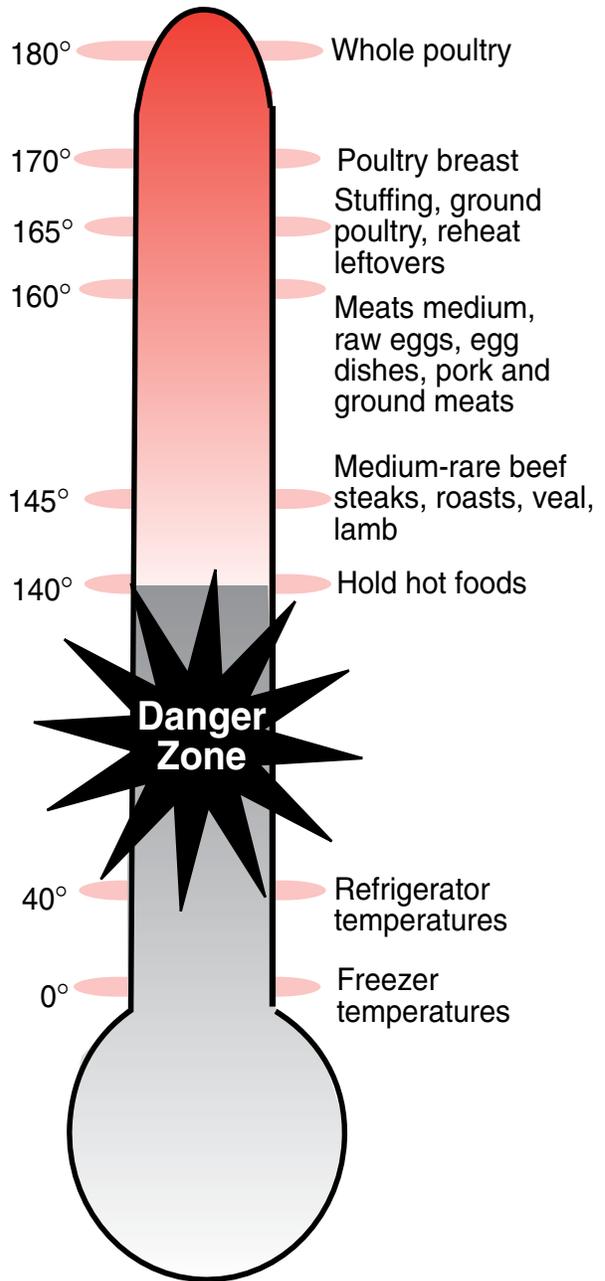
At room temperature, bacteria in food will double their number every 20 minutes. Because even a small amount of bacteria can make you sick, it's important to keep food out of the danger zone (temperatures that range from 40 F to 140 F), so you control the growth of bacteria. Here's how you can keep food out of the danger zone as much as possible.

- Refrigerate or freeze prepared and perishable foods within two hours. If you are worried about putting hot food in your refrigerator, leave the lid off a few minutes to let some of the heat escape.
- Refrigerate large amounts in shallow containers to cool food more quickly.
- Set your refrigerator temperature no higher than 40 F and your freezer temperature no higher than 0 F. Occasionally check the temperatures with an appliance thermometer.
- Refrigerate large amounts in shallow containers to cool food more quickly.
- Set your refrigerator temperature no higher than 40 F and your freezer temperature no higher than 0 F. Occasionally check the temperatures with an appliance thermometer.
- Leave enough room between foods in your refrigerator so that cold air can circulate.
- Marinate foods in the refrigerator. Dispose of unused marinade or heat to a boil if you use the marinade in a sauce.
- Follow the "use-by" dates on packaged foods because some bacteria can grow at refrigeration temperatures. For other foods, use the Refrigerator and Freezer Storage Chart in this publication for recommended length of storage times.

Use a food thermometer to make sure foods have reached a safe internal temperature.



# Keep food out of the "danger zone" or temperatures between 40 F and 140 F.



# Refrigerator and Freezer Storage Chart

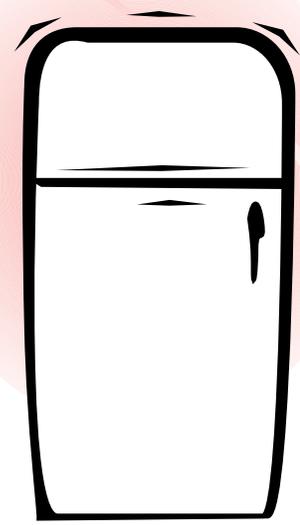
| <b>Eggs</b>               | <b>Refrigerator (40 F)</b> | <b>Freezer (0 F)</b> |
|---------------------------|----------------------------|----------------------|
| Fresh, in shell           | 4-5 weeks                  | Don't freeze         |
| Hard-cooked               | 1 week                     | Doesn't freeze well  |
| Egg substitutes, opened   | 3 days                     | Don't freeze         |
| Egg substitutes, unopened | 10 days                    | 1 year               |

| <b>Dairy Products</b>                                | <b>Refrigerator (40 F)</b> | <b>Freezer (0 F)</b> |
|--|----------------------------|----------------------|
| Milk   | 1 week                     | 3 months             |
| Cottage cheese                                       | 1 week                     | Doesn't freeze well  |
| Yogurt   | 1-2 weeks                  | 1-2 months           |
| Commercial mayonnaise<br>(refrigerate after opening) | 2 months                   | Don't freeze         |

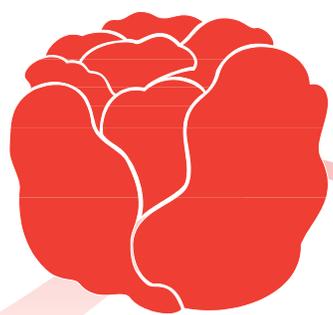
| <b>Vegetables</b>        | <b>Refrigerator (40 F)</b> | <b>Freezer (0 F)</b>   |
|--------------------------|----------------------------|------------------------|
|                          | <b>Raw</b>                 | <b>Blanched/cooked</b> |
| Beans,<br>green or waxed | 3-4 days                   | 8 months               |
| Carrots                  | 2 weeks                    | 10-12 months           |
| Celery                   | 1-2 weeks                  | 10-12 months           |
| Lettuce, leaf            | 3-7 days                   | Don't freeze           |
| Lettuce, iceberg         | 1-2 weeks                  | Don't freeze           |
| Spinach                  | 1-2 days                   | 10-12 months           |
| Squash, summer           | 4-5 days                   | 10-12 months           |
| Squash, winter           | 2 weeks                    | 10-12 months           |
| Tomatoes                 | 2-3 days                   | 2 months               |

| <b>Deli Foods</b>                    | <b>Refrigerator (40 F)</b> | <b>Freezer (0 F)</b> |
|--------------------------------------|----------------------------|----------------------|
| Entrees, cold or hot                 | 3-4 days                   | 2-3 months           |
| Store-prepared<br>or homemade salads | 3-5 days                   | Don't freeze         |

| <b>Hot dogs &amp; Lunch Meats</b> | <b>Refrigerator (40 F)</b> | <b>Freezer (0 F)</b>          |
|-----------------------------------|----------------------------|-------------------------------|
| Hotdogs, opened package           | 1 week                     |                               |
| Hotdogs, unopened package         | 2 weeks                    | 1-2 months<br>in freezer wrap |
| Lunch meats, opened               | 3-5 days                   | 1-2 months                    |
| Lunch meats, unopened             | 2 weeks                    | 1-2 months                    |



Refrigerate foods quickly because cold temperatures keep most harmful bacteria from growing.



Rule  
Four  
**KEEP FOOD  
AT SAFE  
TEMPERATURES**



Some people wonder why you need to refrigerate foods quickly if you kill the bacteria when cooking. The reason is that not all bacteria are killed during cooking. Some survive because they form spores that are resistant to normal cooking temperatures. After cooking, these bacteria begin growing again in moist foods kept at room temperature. Cold temperatures slow their growth.

### Safe Thawing

In addition to chilling foods to control bacterial growth, it is important to thaw foods safely. There are three ways you can thaw foods safely.

1. Thaw in the refrigerator. Four to five pounds takes about 24 hours to thaw.
2. Thaw in cold water. Immerse frozen foods in cold water and change the water every half hour to keep it cold.
3. Thaw in the microwave. Always cook food thawed in the microwave right away.

### Avoid Food from Unsafe Sources

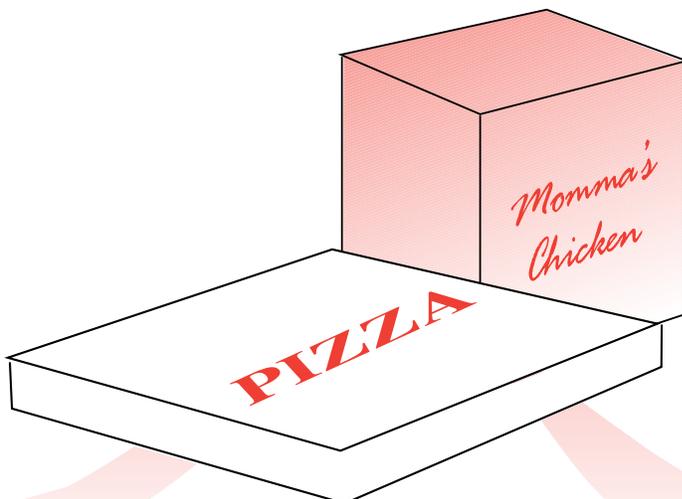
We are not only eating away from home more often, but we are also eating more take-home and ready-to-eat foods. Consumers are demanding more easy-to-prepare meals and more fresh foods, especially fruits and vegetables. New types of packaging increase the shelf life of fresh foods like salads, however, with these changes there are greater opportunities for foodborne illness.

Following the rules of food safety greatly reduces your chances of becoming sick from bacteria in food. However, some foods place you at greater risk for foodborne illness and should not be eaten.

Hot or cold ready-prepared foods are perishable and can cause illness when mishandled.

Rule  
Five

AVOID FOODS  
FROM  
UNSAFE  
SOURCES





## *Foods Seniors are Advised Not to Eat*

To reduce risks of illness from bacteria in food, seniors (and others who face special risks of illness) are advised not to eat these foods:

- 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 made from unpasteurized milk. (Hard cheeses, processed cheeses, cream cheese, cottage cheese or yogurt need not be avoided.)
- Raw or lightly cooked egg or egg products used in salad dressings, cookie or cake batter, sauces and beverages such as eggnog. (Foods made from commercially pasteurized eggs are safe to eat.)
- Raw meat or poultry
- Raw sprouts (alfalfa, clover, bean and radish)
- Unpasteurized or untreated fruit or vegetable juice. (These juices will carry a warning label.)

## *Ready-to-Eat Foods*

It's important to reheat some foods that you buy pre-cooked because it's possible that some contain harmful bacteria. Foods can become contaminated with bacteria when they are processed and packaged at the plant.

**These foods include** hot dogs, luncheon meats, cold cuts, fermented and dry sausage and other deli-style meat and poultry products.

- Reheat these foods until they are steaming hot. If you cannot reheat these foods, do not eat them.
- Wash your hands with warm, running water and soap for at least 20 seconds after handling these types of ready-to-eat foods. Also wash cutting boards, dishes and utensils to eliminate cross-contamination.

## *Eating Out, Bringing In*

Whether you are eating in a restaurant or bringing food home, proper handling is important. Here's how to keep food safe when eating out or bringing in.

*All food service establishments are required to follow food safety guidelines set by state and local health officials.*

## Eating Out

- Be observant. Do the restaurant and its employees look clean? If they don't, you might want to eat somewhere else.
- Order your hamburgers, eggs and seafood cooked thoroughly. If they don't look done or your hot foods are not served hot, send them back to the kitchen.
- Bring leftovers home only if they will be refrigerated within two hours.

## Bringing In

Eat and enjoy your food within two hours!

- If you plan to delay eating, put hot foods in an oven set at a high enough temperature to keep the food at or above 140 F. (Use a food thermometer to check the temperature.) Side dishes, like stuffing, must also stay hot in the oven. Covering food will help keep it moist.

Or,

- Refrigerate and reheat when you are ready to eat. It will taste better that way. Here's how:

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.

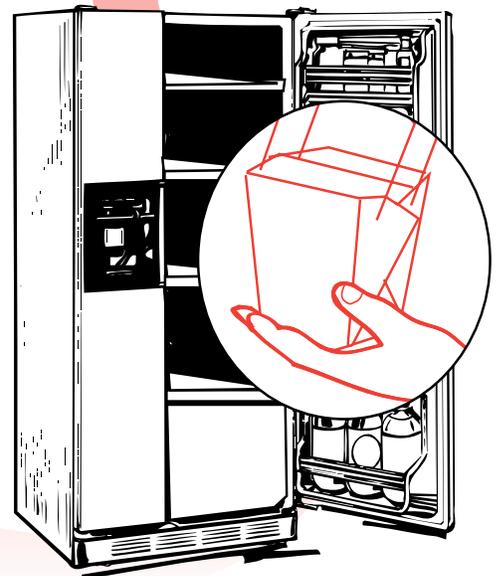
*Discard any perishable foods left at room temperature longer than two hours. (When temperatures are above 90 F, discard food after one hour.)*

## Reheating Foods Safely

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

- Heat the food thoroughly to 165 F until hot and steaming.
- Bring gravy to a rolling boil.
- If heating in a microwave oven, cover food and rotate the dish so the food heats evenly and doesn't leave "cold spots" that could harbor bacteria. Consult your owner's manual for complete instructions.

Go directly home after eating and put your leftovers in the refrigerator.



## An Ounce of Prevention

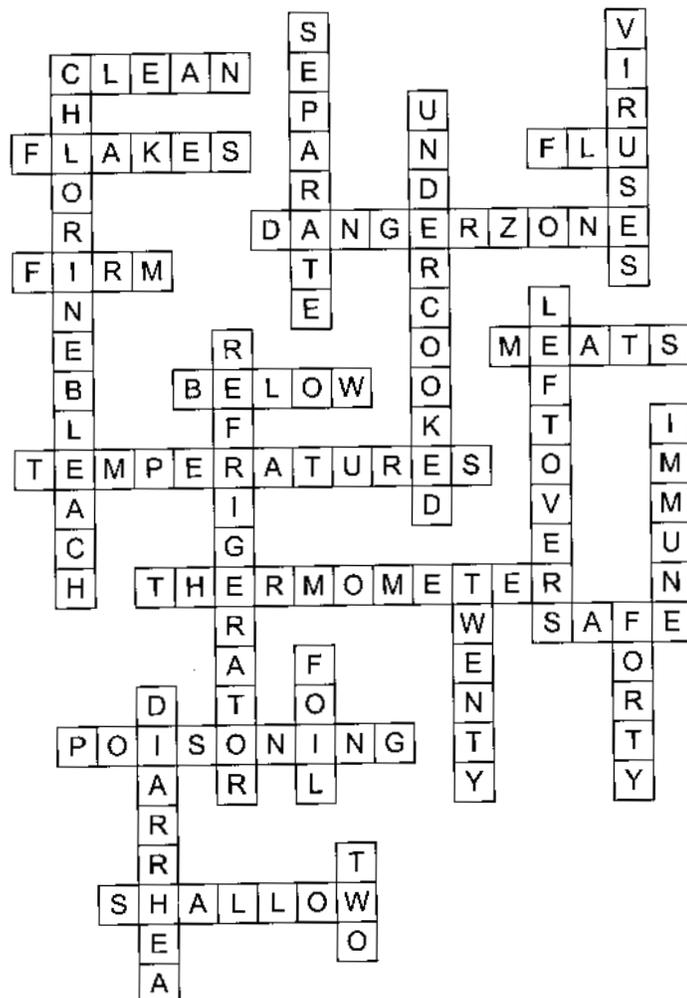
Times have changed and so have we, but we can still enjoy eating. It just takes more care and planning than it used to. It also means staying informed about food safety. If you have questions about food safety, here are some places where you can find reliable information:

- The Food and Drug Administration Hotline can answer questions about the safe handling of seafood, fruits and vegetables, as well as the rules that govern food safety in restaurants and grocery stores. You can reach them by calling: 1-888-SAFEFOOD.
- The USDA Meat and Poultry Hotline can answer questions about safe handling of meat and poultry as well as many other consumer food issues. Call them at 1-800-674-6854 or send e-mail to [mpholine.fsis@usda.gov](mailto:mpholine.fsis@usda.gov).
- Your county Extension office has other publications about food safety and can answer questions about food.

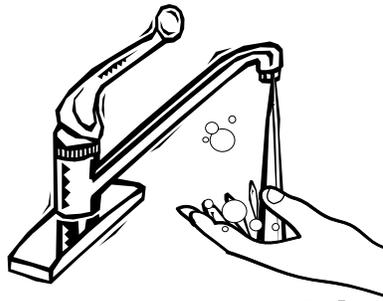
### Answers to Quiz

1.c., 2.c., 3.b., 4.a., 5.a.

### Answers to Crossword Puzzle



# The 5 Rules of Food Safety



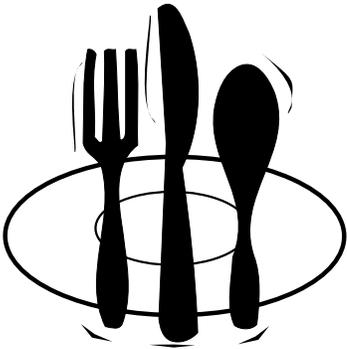
*Practice personal hygiene.*



*Cook foods adequately.*



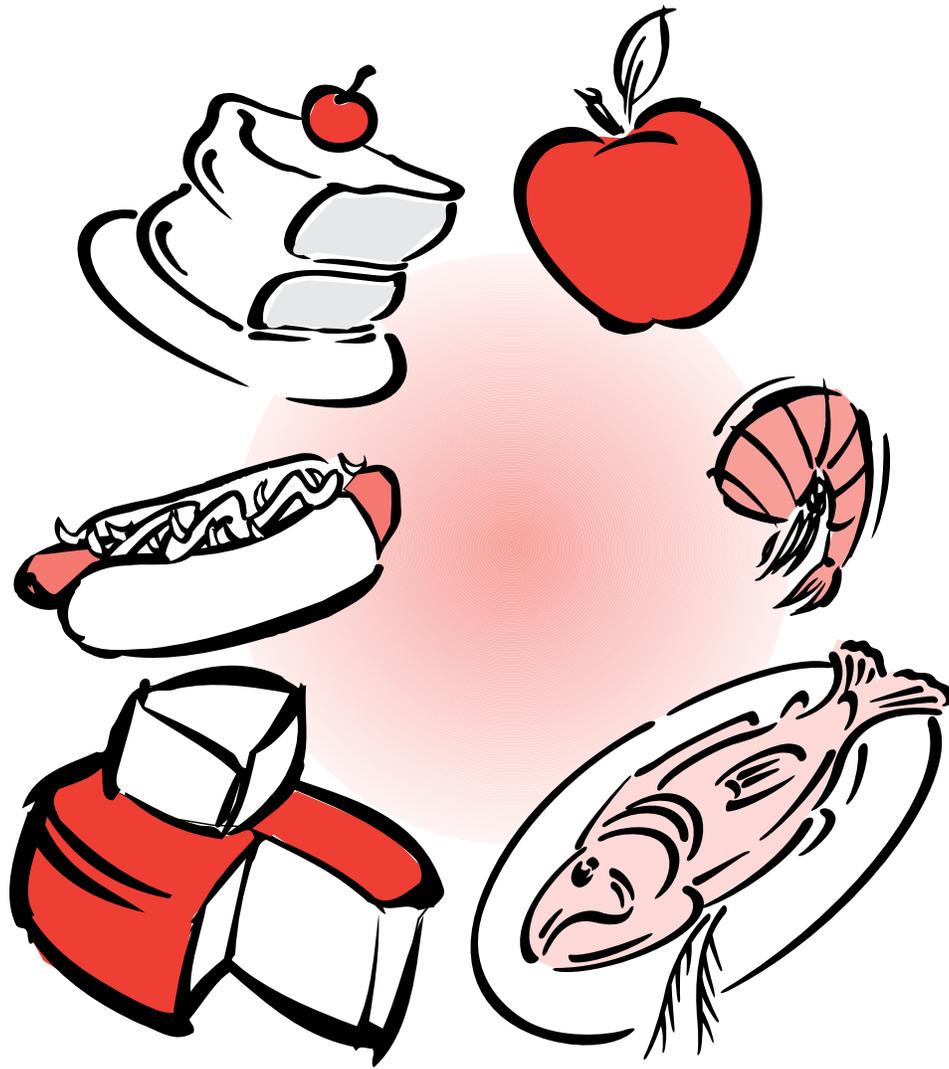
*Avoid cross-contamination.*



*Avoid foods from unsafe sources.*

*Keep foods at safe temperatures.*





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Tennessee Department of Human Services  
and Food Nutrition Service, USDA



TENNESSEE NUTRITION &  
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