

TAKE CONTROL OF FOOD SAFETY!

AN EDUCATIONAL PROGRAM FOR OLDER ADULTS



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WELCOME TO “TAKE CONTROL OF FOOD SAFETY”

**THIS EDUCATIONAL PROGRAM HAS BEEN DESIGNED ESPECIALLY
FOR ADULTS AGE 60 AND OVER.**



Your host for this program is C-LES, an imaginary germ that has been created from five bacteria sometimes found in food. C-LES is an acronym that was created by using the first letters from the names of some bacteria found in food. These include *Campylobacter*, *Clostridium botulinum*, *Listeria*, *Escherichia coli*, *Salmonella*, and *Staphylococcus* (see back cover). C-LES can only live if you don't practice safe food handling. We hope that by applying the information included in this program you will “See Less” of these bacteria in your food and home. We hope you find this booklet informative and enjoyable.

**Please read “Let’s Start with the Basics” first.
The rest can be read in any order.**

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FOOD SAFETY FOR OLDER ADULTS: LET'S START WITH THE BASICS

Have you ever awakened during the night with diarrhea, abdominal cramping, fever, a headache, or perhaps began vomiting and didn't know what was the matter? You might have thought you had the flu. However, chances are you had food poisoning or a foodborne illness.

What Is Foodborne Illness?

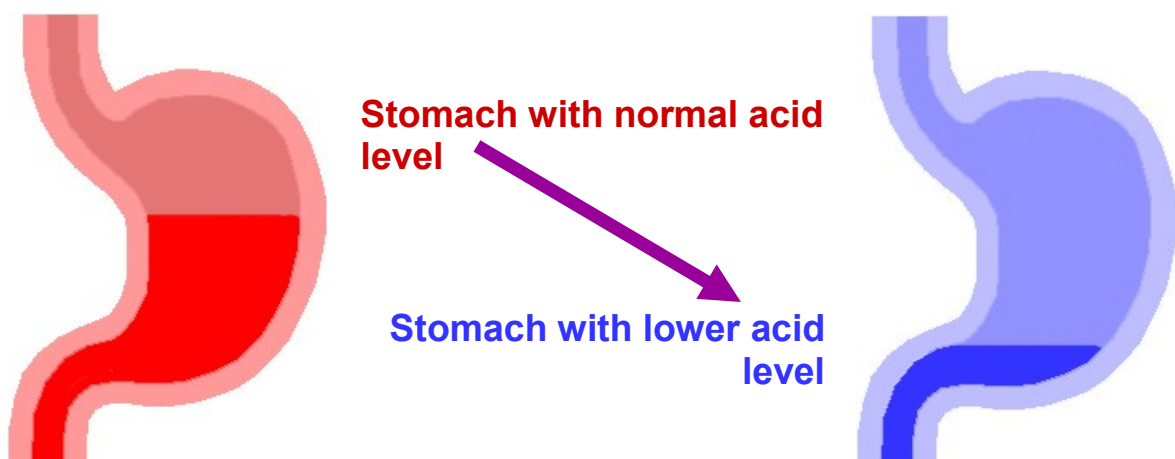
Foodborne illness is caused by bacteria or other harmful organisms on food or in beverages that you ate or drank. They might not be there when you buy the food or they might come from you, your kitchen, your pets or other foods. Bacteria live everywhere—in many foods, on your skin, under your fingernails, on other surfaces, on animals and in the environment.

Who Is Most Likely To Get A Foodborne Illness?

- People with chronic illnesses
- People with weakened immune systems
- Older adults

Why Are Older Adults More Susceptible To Foodborne Illness?

- As you get older, the amount of acid produced in the stomach decreases.
- The acid that is produced by the stomach helps prevent the chances of infection occurring if harmful bacteria are taken in through food or drink.



- Lower levels of acid permit the rapid growth of harmful bacteria in the gut and the possible formation of poisonous substances.
- As we get older the immune system decreases in its ability to fight disease and preserve health.
- Chronic illnesses such as diabetes, kidney disease, liver disease, and certain cancers may increase your risk for a foodborne illness.
- Other medical conditions such as having an organ transplant or receiving chemotherapy or radiation treatments may also increase a person's risk for a foodborne illness.

How Do You Know If You Have A Foodborne Illness?

Listed below are some of the symptoms you may have. You probably will not have all of them and they may occur at different times. Some may occur as soon as 20 minutes after eating the food. Some may not even occur until several weeks after you ate the contaminated food.



- Sharp abdominal cramps
- Diarrhea
- Vomiting
- Fever
- Fatigue
- Chills
- Dizziness
- Stiff neck
- Severe headache
- Vision problems



How Can You Tell The Difference Between The Symptoms Of A Foodborne Illness And The Flu?

While some of the symptoms may be the same, the most common symptoms of the flu are:

- Inflammation of the respiratory tract
- Sudden onset of fever, chills, muscular pain, and/or headache
- Severe tiredness

How Long Does A Foodborne Illness Last?

There may be a delay before the symptoms of a foodborne illness occur. This is called the incubation period. Symptoms of foodborne illness usually last only a few days. However, some may last for up to six weeks. How long your foodborne illness lasts depends on the following:

- The type of bacteria
- The number of bacteria in the food
- How much of the contaminated food was eaten
- How susceptible you are to the bacteria

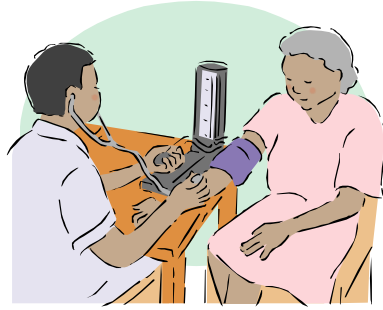
What Should You Do If You Have A Foodborne Illness?

- Get plenty of rest
- Drink plenty of clear fluids (such as water, strained juices, caffeine-free soft drinks, broth, etc.)



When Should You Call Your Doctor?

- Always contact your healthcare provider if:
 - Diarrhea is bloody
 - Diarrhea and vomiting are excessive
 - The symptoms include stiff neck, severe headache, and fever all at once



When Should You Contact Your Local Health Department?

As soon as possible if you think the food that made you sick came from a restaurant or large gathering such as a church picnic, pot luck dinner, or party.

- They may ask:
 - What made you sick?
 - Do you have any of the food that you think made you sick?
 - Where did you eat the food that made you sick?
 - Can we get a stool sample?

What Should You Not Do If You Have A Foodborne Illness?

- Drink beverages high in caffeine, such as coffee, colas, and strong tea. These cause you to lose fluids.
- Eat high-fiber foods such as fresh fruits and vegetables, whole grain cereals, and beans. These foods make you need more liquid and can also make the diarrhea worse.
- Take over-the-counter medication such as antidiarrheal medications. These drugs may stop gastric secretion which may do more harm.

WHAT DID YOU LEARN?

Mr. Stark, a 73 year old man, recently ate something that he thinks made him sick.

- 1. Which of the following symptoms is not a common symptom of foodborne illness? [Choose one answer]**
 - a. Vomiting
 - b. Muscular pain
 - c. Sharp abdominal cramps
 - d. Diarrhea

- 2. How long Mr. Stark's foodborne illness lasts will depend on which of the following? [Choose one answer]**
 - a. How much of the contaminated food was eaten
 - b. The type of bacteria
 - c. The number of bacteria in the contaminated food
 - d. A, B, and C
 - e. None of the above

- 3. For the next 2 to 3 days, what should Mr. Stark do? [Choose one answer]**
 - a. Go for his usual two-mile morning walk
 - b. Drink plenty of clear fluids
 - c. Drink milk before each meal
 - d. Continue eating as usual

The correct answers are on the next page

ANSWERS

1. Which of the following symptoms is not a common symptom of foodborne illness?

The correct answer is **(b. Muscular pain)**.

Sudden onset of muscular pain is a common symptom of the flu. The other symptoms are typical for someone who has eaten contaminated food.

2. How long Mr. Stark's foodborne illness lasts will depend on which of the following?

The correct answer is **(d. A, B, and C)**.

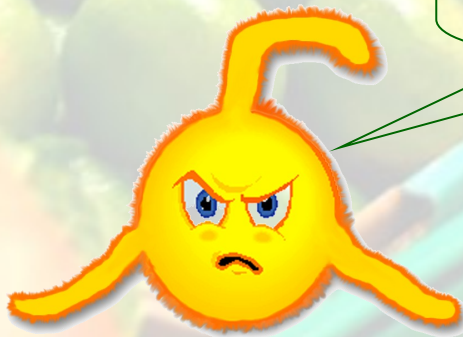
Symptoms of foodborne illness may occur as quickly as 20 minutes after eating the contaminated food and may last for up to six weeks. The length of time the foodborne illness lasts depends on how much of the contaminated food was eaten, the type of bacteria that was in the food, and the number of bacteria in the contaminated food.

3. For the next 2 to 3 days, what should Mr. Stark do? [Choose one answer]

The correct answer is **(b. Drink plenty of clear fluids)**.

Foodborne illnesses should be taken seriously. They can lead to dehydration and even death. To prevent dehydration and preserve his energy, Mr. Stark should drink plenty of clear fluids and get adequate rest.

So.....how many did you get right?





BETTER SAFE THAN SORRY

WHAT NOT TO EAT!

With all of the stories in the news about foods that have made some people sick, you may have wondered whether you can eat anything! The good news is that most foods do not lead to foodborne illness. However, there are some foods that are more likely than others to make older adults sick if you eat them.

What Foods Should You Avoid?

- Foods that contain raw or undercooked eggs
 - homemade Caesar salad dressing and mayonnaise
 - poached eggs
 - eggs Benedict
 - undercooked (runny) scrambled eggs
 - homemade cookie dough
 - cake batter
 - hollandaise sauce
 - milk shakes
 - mousse
 - cold soufflé
 - seven minute or royal icing
 - homemade ice cream [those made using stirred custard are okay]

- Refrigerated, cold-smoked seafood

Seafood that is cold-smoked is usually labeled “lox” or “nova”. It may also say “keep refrigerated until ready to serve” or “cook before eating” on the label.

- Salads purchased from the grocery store deli counter



- Raw or undercooked meat or poultry
- Hot dogs eaten cold out of the package without reheating

To kill any harmful bacteria, place hot dogs in boiling water and boil for at least 15 seconds, or heat in microwave oven until steaming.

- Freshly sliced deli meats or pre-packaged luncheon meats eaten cold without reheating

Yes, you are supposed to heat deli and luncheon meats to steaming before eating them to kill any harmful bacteria.



- Raw or undercooked fish or seafood

- oysters
- mussels
- clams
- scallops
- sashimi
- sushi
- ceviche
- gravlax
- trout
- herring
- pâté

- Raw, unpasteurized milk

Do not buy milk or milk products sold at farm stands or farmer's markets unless you can confirm that it has been pasteurized. If it says "only for animal use," it is not pasteurized.

- Raw sprouts

- bean sprouts



- alfalfa sprouts



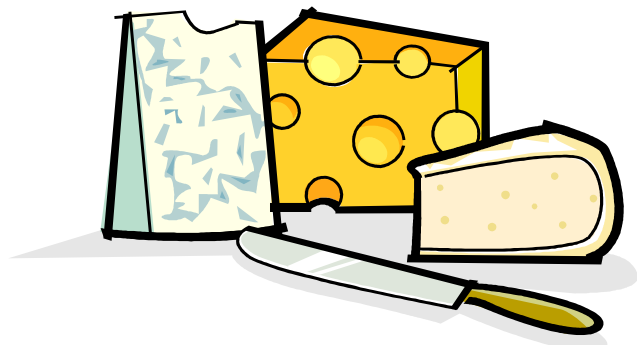
Sprouts pose a special challenge because the way they are grown is ideal for bacteria to grow, and because they are usually eaten without cooking. A few bacteria on the seeds used to grow the sprouts can result in a lot of bacteria in your tummy.

- Unpasteurized juices, cider, or honey

WATCH FOR THIS WARNING LABEL ON PRODUCTS

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

- Mold-ripened, blue veined cheeses or soft cheeses made from unpasteurized milk
 - Mold-ripened cheeses
 - Brie
 - Camembert
 - Blue Brie
 - Cambozola
 - Chaumes
 - Pont L'Eveque
 - Prince Jean
 - Tallegio
 - Vacherin-Fribourgeois
 - Weichkaese
 - Blue-veined cheeses
 - Danish Blue
 - Stilton
 - Bavarian Blue
 - Bergader
 - Bleu d'Auvergne
 - Blue Shropshire
 - Cabrales



- Dolcelatte
- Doppelrhamstuge
- Eldel pilz
- Gorgonzola
- Romano
- Roquefort
- goat cheeses
- Soft cheese made from unpasteurized milk
 - queso fresco
 - queso blanco
 - panela
 - asadero

Check package label to see if the cheese has been made from pasteurized milk.

And don't forget to thoroughly wash all of those nutritious, fresh fruits and vegetables before eating them



WHAT DID YOU LEARN?

- 1. Which of the following cheeses are probably safe to eat? [Choose one answer]**
 - a. Mold-ripened
 - b. Blue-veined
 - c. Soft cheese made from unpasteurized milk
 - d. Soft cheese made from pasteurized milk
- 2. It is safe to eat cookie dough and cake batter that has not been baked in the oven. [Choose one answer]**
 - a. True
 - b. False
- 3. Which of the following is the proper way to eat a hotdog? [Choose one answer]**
 - a. Eat cold out of the package without reheating
 - b. After cooking in boiling water for at least 15 seconds
 - c. After placing hot dog in warm water until it is no longer cold

The correct answers are on the next page

ANSWERS

1. Which of the following cheeses are probably safe to eat?

The correct answer is **(d. Soft cheese made from pasteurized milk)**.

When buying cheese or milk, it is important that it is pasteurized to prevent foodborne illness.

2. It is safe to eat cookie dough and cake batter that has not been baked in the oven.

The correct answer is **(b. False)**.

Cookie dough and cake batter contain raw eggs which carry foodborne illness.

3. Which of the following is the proper way to eat a hotdog?

The correct answer is **(b. After cooking in boiling water for at least 15 seconds)**.

Hot dogs may also be heated in the microwave oven until steaming.



STORE IT RIGHT

Keeping Foods Cold

The temperature of the refrigerator and freezer is important. Refrigerator and freezer temperatures should be checked each day to be sure they are cold enough. Refrigerators should be between 32 and 40 degrees F (0-4.4°C), while freezers should be 0 degrees F (-18° C) or below.

Here are some tips for keeping the refrigerator and freezer cold

- Don't pack the refrigerator too full. Cold air must be able to circulate to keep food cold.
- Keep the refrigerator and freezer doors closed as much as possible. Know what you want to get out before you open the door.
- Be sure the door seals are tight.
- Clean the coils of the refrigerator at least once a month.
- Don't put the refrigerator next to the oven or by a window where the sun comes in. This will cause it to be warmer.

Recommended Storage Times For Cold Foods

Recommended maximum storage times for cold foods have been developed. However, remember that these times are mostly freshness dates. The temperature of the refrigerator and the number of times the product is taken out of the refrigerator, opened and replaced will have an impact on the quality of the product.



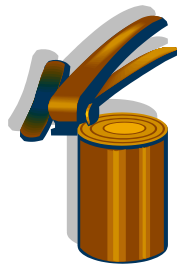
Brrrrrr
Are they trying to kill me?

Storage Times for the Refrigerator and Freezer

	Refrigerator (40° F, 4.4°C)	Freezer (0°F, -18°C)
<u>Salads</u>		
Egg, chicken, ham, tuna, & macaroni salads	3-5 days	Does not freeze well
<u>Hot Dogs</u>		
Opened package	1 week	1-2 months
Unopened package	2 weeks	1-2 months
<u>Luncheon Meats</u>		
Opened package or deli sliced	3-5 days	1-2 months
Unopened package	2 weeks	1-2 months
<u>Bacon & Sausage</u>		
Bacon	7 days	1 month
Sausage, raw - from chicken, turkey, pork, beef	1-2 days	1-2 months
<u>Hamburger & Other Ground Meats</u>		
Hamburger, ground beef, turkey, veal, pork, lamb, & mixtures of them	1-2 days	3-4 months
<u>Fresh Beef, Veal, Lamb, & Pork</u>		
Steaks	3-5 days	6-12 months
Chops	3-5 days	4-6 months
Roasts	3-5 days	4-12 months
<u>Fresh Poultry</u>		
Chicken or turkey, whole	1-2 days	1 year
Chicken or turkey, pieces	1-2 days	9 months
<u>Soups & Stews</u>		
Vegetable or meat added	3-4 days	2-3 months
<u>Leftovers</u>		
Cooked meat or poultry	3-4 days	2-6 months
Chicken nuggets or patties	3-4 days	1-3 months
Pizza	3-4 days	1-2 months
Adapted from http://www.foodsafety.gov/keep/charts/storagetimes.html		

Other Storage Tips

- Label foods with the date they were opened. It is easy to forget when an item was actually opened or used last.
- Place all leftovers in safe, preferably air tight storage containers. Label the container with the name of the food and the date it was prepared.
- You have probably heard the statement “keep hot foods hot and cold foods cold”. This is one of the best ways to avoid getting sick from eating something that was not stored properly or soon enough.
- Hot foods should be kept at 140 degrees F (60° C) or above. Cold foods should be kept at 40 degrees F (4.4° C) or below.
- Hot foods that are going to be cooled need to reach 40 degrees F (60° C) within 2 hours.
- 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 separately from the poultry.
- Any perishable food, including cut produce, left at room temperature for more than two hours needs to be thrown into the garbage.
- Raw meat and poultry products in the refrigerator or freezer need to be wrapped tightly so the bacteria juices do not drip onto other foods. Those in the refrigerator should be put on the bottom shelf, on a plate, or in a container.



Canned Foods And Storage

- Canned fruits and tomatoes can be stored for 12 – 18 months.
- Canned meats and vegetables can be stored for 2 – 5 years.
- In order for the cans to maintain their shelf life they must be stored in a cool dry place. Any can that is dented, leaking, swollen (looks like it is going to explode), or rusted must be discarded.
- A can that has been opened should not be stored in the refrigerator or freezer.
- Wash can lids before opening and wash can openers after each use. This will prevent any unwanted bacteria on the can opener or the can itself from contaminating the food.

WHAT DID YOU LEARN?

- 1. At what temperature should the refrigerator be kept? [Choose one answer]**
 - a. 60 – 70 degrees F (16° – 21° C)
 - b. 32 – 40 degrees F (0° – 4.4° C)
 - c. 50 – 60 degrees F (10° – 16° C)
 - d. 41 – 50 degrees F (5° – 10° C)
- 2. Placing the hot food into small shallow containers in the refrigerator will help in cooling the food to 40 degrees F (4.4° C) within two hours. [Choose one answer]**
 - a. True
 - b. False
- 3. When should a can of vegetables be thrown out? [Choose one answer]**
 - a. if the can is dented
 - b. if the can is swollen
 - c. if the can is rusty
 - d. All of the above

The correct answers are on the next page

ANSWERS

1. At what temperature should the refrigerator be kept?

The correct answer is **(b. 32 – 40 degrees F (0° – 4.4° C))**.

The refrigerator must be kept at 40 degrees or below to prevent or slow the growth of bacteria.

2. Placing the hot food into small shallow containers in the refrigerator will help in cooling the food to 40 degrees F (4.4° C) within two hours.

The correct answer is **(a. True)**.

Placing hot foods into small shallow containers decreases the distance cold air has to travel to get to the center of the food.

4. When should a can of vegetables be thrown out?

The correct answer is **(d. All of the above)**.

Any can that is dented, leaking, swollen, or rusted must be thrown in the garbage.



I hope you missed these so
I can live longer.



THE RIGHT TOOLS FOR THE JOB

When you think about keeping food safe that you prepare at home, you need to be sure that you have the right tools for the job. Remember, you cannot see bacteria. Having the right tools on hand for cleaning, cutting and controlling temperatures can help make you a C-LES fighter.

Remember that in the kitchen one of the first steps to having a safe clean kitchen is you! Clothes should be close-fitting. This will prevent the clothes from getting into the food or tangled on the pots and pans that you are using. Also hands should be free from any open sores that would allow bacteria to get into the food. Lastly, accidents happen so having a first aid kit handy is always a great idea.

There are two different categories of tools for fighting bacteria in the kitchen. Cleaning and cooking tools are the first category that will be mentioned. The chemicals used in the kitchen will be the second category. When these two are used properly together there is little chance for bacteria to survive.

Cleaning And Cooking Tools

1. Broom and Dust Pan

- During and after cooking, sweep up any foods dropped on the floor and throw them in the trash.

2. Cooler

- You should use a cooler for transporting food during spring and summer outings, storing food while cleaning the refrigerator, and during short-term power outages.
- Always pack a refrigerator thermometer in your cooler to make sure the food is kept at 40 degrees F (4.4° C) or less.

3. Cutting Boards

- You can avoid cross-contamination by using a clean cutting board each time you change foods. For example, if you cut raw meats (beef, pork, poultry or seafood), change the cutting board to cut ready-to-eat foods, fruits or vegetables.
- Plastic or other non-porous cutting boards are easier to clean. They can be washed in hot soapy water or run through the dishwasher.

4. Long-handled Bottle Brush

- You will use this tool for cleaning jars and bottles. It also works well if you're trying to clean around the inside edges of pots and pans.

5. Dishcloths

- Use a clean dishcloth everyday to wash dishes, wipe up spills and clean the kitchen counter.
- Wash the dishcloth in the washing machine on the hot water cycle and dry in a hot dryer.
- Dishcloths are easier to keep clean than sponges and can be purchased inexpensively.

6. Mop

- Mop kitchen floors often.

7. Paper Towels

- You can use paper towels to clean the kitchen or maybe use a combination of paper towels and dishcloths.
 - It might be easier to wipe up small spills and clean small areas with a paper towel.
 - Use a dishcloth for cleaning larger areas.
- After each use just throw the paper towel away.



8. Refrigerator/Freezer/Appliance Thermometer

- Use a thermometer so you know the inside temperature of your refrigerator and freezer.
 - The refrigerator temperature control dial does not give the temperature.

- Checking the temperature daily on the thermometer is the best way to determine if the refrigerator and freezer are cold enough to keep food safe.
- Refrigerator temperature should be 40 degrees F (4.4° C) or below. Freezer temperature should be 0 to -10 degrees F (-18° – -23° C).

9. Sponge

- Did you know sponges provide a great place for C-LES to grow? He loves the warmth, moisture and food collected on the sponge.
- If you use a sponge, remember to clean and dry it after each use and buy a new one often. While the recommendation is sometimes made to heat WET sponges in the microwave oven, the guidelines are not precise and there is a possibility of fire.

10. Toothbrush or Other Small Brush

- Use this for cleaning drains, sink edges, and other hard to reach areas that need cleaning. Don't let C-LES grow.

11. Trash Can with Top

- A trash can with a top or lid lined with a bag is a sanitary way to throw away any garbage or refrigerated leftover foods more than 4 days old.

12. Vegetable Brush

- Use a vegetable brush to scrub vegetables and fruits with hard-surfaces, such as melons, cucumbers and acorn squash.
- After each use, clean the brush with hot soapy water or run it through a dishwasher if it is dishwasher safe. This brush should only be used to clean produce.



13. Cooking Thermometer

- Apply the Heat ... and Fight C-LES.
- Cooking food to the proper temperature kills C-LES, so thoroughly cook your food and use a cooking thermometer to test the temperature.

Chemical Cleaners

1. Bleach

- You will need this to prepare the sanitizing solution. Do not mix with other cleansers and detergents.
- The recipe for a sanitizing solution is to mix one teaspoon of liquid chlorine bleach with one quart of plain water.

2. Cleanser

- Use cleanser for cleaning sinks, counter tops, pots, pans and other kitchen surfaces. You can choose powder or liquid.

3. Dish Detergent

- Use dish detergent to clean dishes, utensils, pots, pans, countertops and other kitchen items. Antimicrobial dish detergent is not necessary.

4. Hand Soap

- Wash your hands for 20 seconds with warm water and liquid hand soap before, during and after cooking and cleaning.



WHAT DID YOU LEARN?

1. **How should you use bleach to sanitize a surface? [Choose one answer]**
 - a. Bleach is not used to sanitize a surface
 - b. Use the bleach straight out of the container
 - c. Use bleach with other cleansers and detergents
 - d. Use bleach to prepare a sanitizing solution

2. **When using a cooler, what temperature should the thermometer read? [Choose one answer]**
 - a. 50 degrees F (10° C)
 - b. 60 degrees F (16° C) or more
 - c. 45 degrees F (7° C)
 - d. 40 degrees F (4.4° C) or less

3. **A vegetable brush should be used to clean? [Choose one answer]**
 - a. Dirty pots and pans
 - b. Counter tops
 - c. Vegetables and fruits
 - d. Drains
 - e. All of the above

4. **A sponge is a great place for bacteria to grow. [Choose one answer]**
 - a. True
 - b. False

The correct answers are on the next page

ANSWERS

1. How should you use bleach to sanitize a surface?

The correct answer is **(d. Use bleach to prepare a sanitizing solution)**.

You will need bleach to prepare a sanitizing solution. Do not mix with other cleansers or detergents.

2. When using a cooler, what temperature should the thermometer read?

The correct answer is **(d. 40 degrees F (4.4° C) or less)**.

Always pack a refrigerator thermometer in your cooler to make sure the food is kept at 40 degrees F or less.

3. A vegetable brush should be used to clean?

The correct answer is **(c. Vegetables and fruits)**.

A vegetable brush should only be used to clean fruits and vegetables. A toothbrush and a bottle brush can be used to clean dirty pans, counter tops, and drains.

4. A sponge is a great place for bacteria to grow.

The correct answer is **(a. True)**.

Bacteria love the warmth, moisture, and food collected on the sponge.



CLEAN IT! MAKE IT SAFE!

You can't see, taste or smell them.

They are sneaky little critters that can spread throughout the kitchen and get onto hands, cutting boards, utensils, countertops, and food.

They are foodborne bacteria — and if eaten, they can cause foodborne illness.

Follow these simple guidelines to keep food clean and safe to eat:

Personal Hygiene

- Washing hands often is the most effective way to reduce the spread of bacteria and other things that can cause foodborne illness.
- It is important to always wash hands before and after preparing food; after using the bathroom; changing a diaper; tending to a sick person; smoking; blowing nose, coughing, sneezing; and/or after handling pets.
- Rub-a-dub-dub! C-LES says to moisten hands with warm water, then apply soap and rub hands together for 20 seconds before rinsing. Dry hands with a clean towel, preferably paper. Twenty seconds is about the amount of time it takes to say your ABC's slowly.

Kitchen Hygiene

- Wash countertops with hot soapy water before and after preparing food.
- Wash cutting boards, dishes, utensils, handles, faucets, and counter tops with hot soapy water before and after preparing each food item and before you go on to the next food.

More information on cleaning the kitchen can be found in “A Little Elbow Grease” on page 31.

Food Hygiene

Fruits and Vegetables

How would you like knowing that excess bacteria ended up in your body, and you could have prevented it? Since it is hard to recognize bacteria with the naked eye, you need to be aware that they are present not only in rotten, damaged or bruised fruits and vegetables, but may also be present in nice looking ones.

- Wash all fresh fruits and vegetables, including those with skins and rinds that are not eaten, before cutting and/or eating.
- Rub firm-skin fruits and vegetables under running tap water, or scrub with a clean vegetable brush, then rinse.
- Remove and throw away damaged or bruised areas on produce. Bacteria can thrive in these places.
- Special cleaning agents are not needed. Plain water works best and is the safest for washing produce.
- Never use detergent or bleach to wash fresh fruits or vegetables. These products are not intended for consumption.

Cans and Can Openers

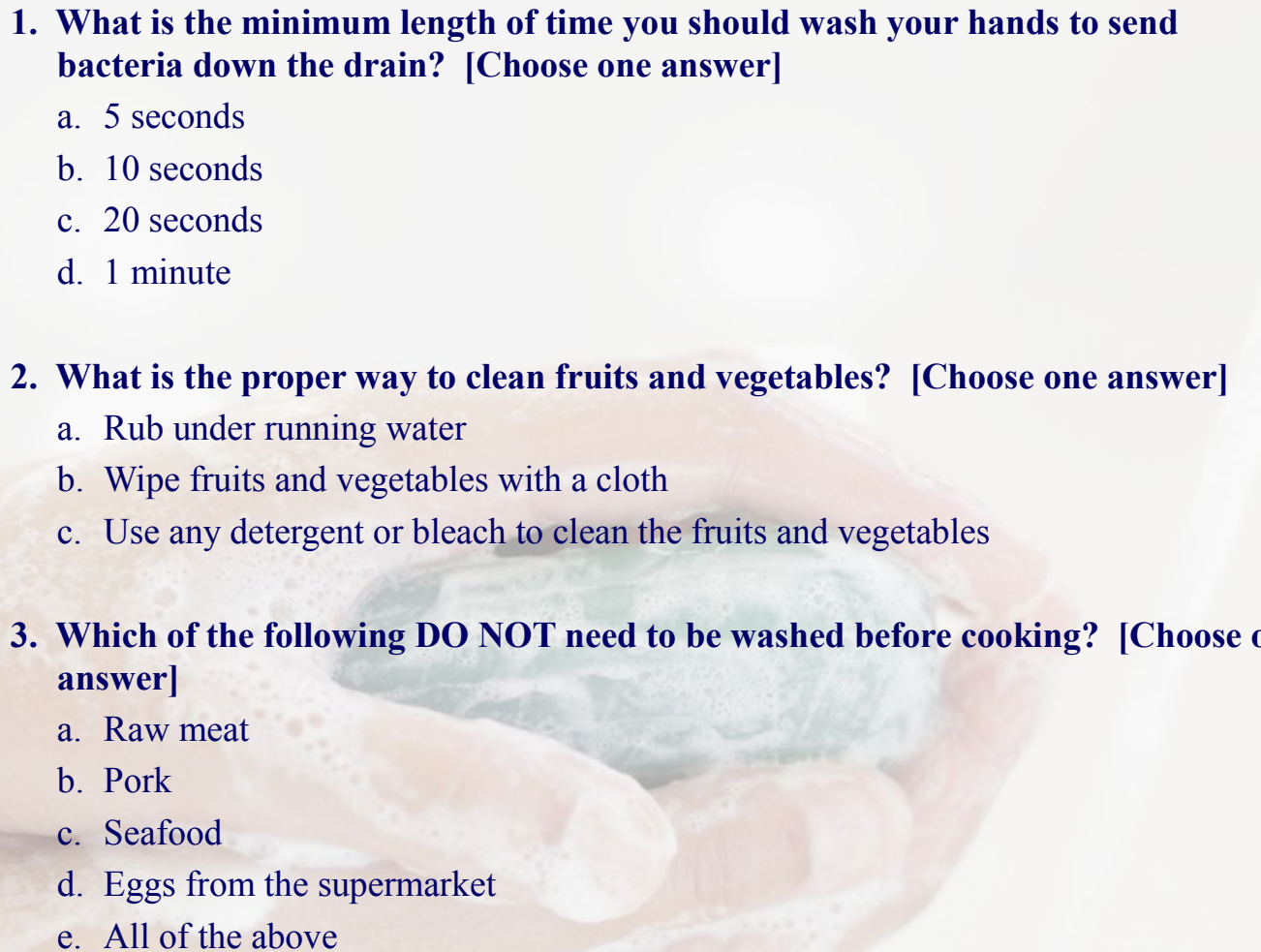
- Wipe tops of cans with a clean damp cloth before opening.
- Wash can openers each time you use them too! Dirt can be left in the can as it is being opened.



What Do You Not Need to Wash Before Cooking?

- Raw meat, pork, veal, lamb, seafood or poultry should not be washed before cooking. Any bacteria which might be on the outside would be destroyed by cooking the meat to a safe internal temperature. Washing may leave potentially harmful bacteria in the sink, bacteria that might multiply if the sink is not cleaned thoroughly, especially around the drain. The water may also splash onto the counter or anything else in the area.
- Eggs purchased in a supermarket or grocery store should not be washed before using. They have been washed previously and coated to protect the egg. Farm-fresh eggs should be washed before cracking.

WHAT DID YOU LEARN?

- 
- A close-up photograph of a hand being washed with soap under a running faucet. The water is clear and flowing, and the soap is white and foamy. The hand is held in a way that the palm is facing up, and the fingers are slightly curled. The background is a plain, light-colored wall.
- 1. What is the minimum length of time you should wash your hands to send bacteria down the drain? [Choose one answer]**
 - a. 5 seconds
 - b. 10 seconds
 - c. 20 seconds
 - d. 1 minute
 - 2. What is the proper way to clean fruits and vegetables? [Choose one answer]**
 - a. Rub under running water
 - b. Wipe fruits and vegetables with a cloth
 - c. Use any detergent or bleach to clean the fruits and vegetables
 - 3. Which of the following DO NOT need to be washed before cooking? [Choose one answer]**
 - a. Raw meat
 - b. Pork
 - c. Seafood
 - d. Eggs from the supermarket
 - e. All of the above

The correct answers are on the next page

ANSWERS

1. How long should you wash your hands to send bacteria down the drain?

The correct answer is (c. **20 seconds**).

Moisten hands with warm water, then apply soap and rub hands together for 20 seconds before rinsing.

2. What is the proper way to clean fruits and vegetables?

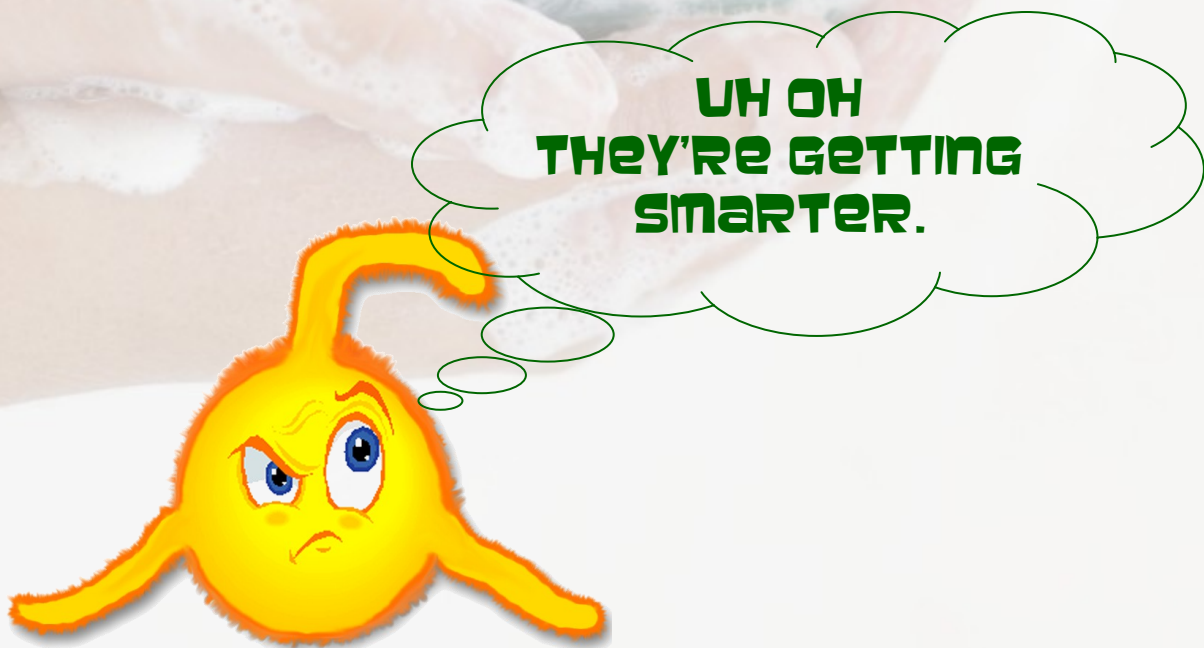
The correct answer is (a. **Rub under running water**).

Rub fruits and vegetables or scrub firm-skinned fruits and vegetables with a vegetable brush while under running tap water.

3. Which of the following DO NOT need to be washed before cooking?

The correct answer is (e. **All of the above**).

All of the answers will have the bacteria destroyed by cooking to a safe internal temperature. Eggs from a supermarket have been washed previously.





A LITTLE ELBOW GREASE!

How clean is your kitchen?

Would you answer, *very clean*, *I think it's clean*, or *you must be kidding*?

Did You Know That Kitchens Have More Bacteria Than Any Other Room In The Home?

You cannot see bacteria. Therefore, everything in your kitchen needs to be kept clean, including you. Most of us take pride in keeping a clean kitchen but clean may not be enough when it comes to killing bacteria or other harmful organisms. Just a few bacteria can become billions in hours!

In order to reduce the number of germs in your kitchen, any surface that comes into contact with food needs to be cleaned and sanitized, including places like the inside of your refrigerator, the inside and outside of cupboards, and the inside of your microwave oven.

What Is The Difference Between *Clean* And *Sanitize*?

- Clean means to remove all signs of food and dirt, but you can't see bacteria. You don't get 100% clean.
- Sanitize means to use a chemical like bleach after cleaning to kill the rest of the bacteria.

What To Use To Clean The Kitchen

The fragrance and color of dish detergents don't affect their cleaning power.

There are many cleaners on the market today.

- In most cases you can use warm water and regular dish detergent for general cleaning.
- For stubborn dirt and stains, you may have to use "a little elbow grease" and a scrubbing compound.
- Be sure to rinse surfaces well after cleaning.

What About Sanitizing?

Always clean before sanitizing. You can buy a kitchen sanitizer, or you can make your own sanitizing solution using the recipe below.

Recipe for Sanitizing Solution

- Mix one teaspoon of liquid household chlorine bleach with one quart of plain water and place in a spray bottle.
- Spray solution onto surface. Allow to air dry or sit for 2-3 minutes. Then dry with clean paper towels.



It Begins With You: Washing Your Hands

It really works. People who wash their hands often have fewer colds than those who don't wash them often.

Always wash your hands:

- before you prepare any foods
- after handling raw meats
- before and after eating
- after touching anything dirty, including hair, clothes, pets, brooms, mops, the telephone, your face, nose or any part of the body

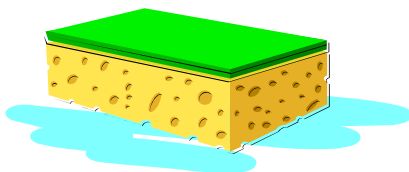
Use disposable gloves if you have an open sore or cut on your hands. If a sore on your hands is infected, don't prepare meals unless absolutely necessary. Infected sores often carry Staphylococcus - one of the most common types of bacteria that causes foodborne illness.

Here's how:

- Wash hands with soap and warm water (not hot) for at least 20 seconds. Do not forget to scrub your nails and wash the backs of your hands.
- After you wash your hands, dry them with a paper towel, not a hand towel that is shared, and especially not one that is used for other purposes.
- Use the paper towel to turn off the faucet. Then, throw the paper towel away.

Be careful if you use a brush with stiff bristles to scrub your hands. This may cause skin tears, which can be a hiding place for bacteria. Skin could get infected if not cared for properly.

Hand sanitizers should only be considered a temporary replacement for hand washing. They do not remove bacteria as well as hand washing with soap and water. Using them too often can dry out hands and lead to cracks.



Sponges Are The Dirtiest Thing In The Kitchen

Wiping your counters or washing your dishes with a dirty sponge will only transfer the bacteria from one place to another. Sponges must be cleaned regularly or thrown away.

Clean your sponge using one of the following methods:

- Wash the sponge in soapy water, rinse in clear water, then allow the sponge to soak in the sanitizing solution (bleach water) for at least 1 minute. Remove the sponge from the solution, and place on a rack to dry.
- If you have a dishwasher, place the sponge on the top shelf and run as usual; be sure to use the drying cycle.



Dishcloths Are No Cleaner Than Sponges

Using a dirty dishcloth spreads bacteria. It is best to wash dishes and clean kitchen surfaces with throw away cloths. Dishcloths that are not thrown away after use need to be cleaned and sanitized between uses by one of the following methods.

- Dip the cloth in soapy water, rinse in clear water and then soak in the sanitizing solution (bleach water) for at least 1 minute. Wring out the cloth, hang it up, and allow to air dry.
- Wash the dishcloth in the washing machine in hot water and dry using high heat. Use bleach in the wash water when possible.

Handles Have Germs Too

Faucets, refrigerators, freezers, ovens, cupboards, drawers, and doors all have handles where harmful bacteria may be found.

- Wash handles with warm, soapy water both before and after preparing food.
- Where possible, use a sanitizing solution on these or any other area that you touch with your hands.

Don't forget to disinfect your telephone too!



Sinks And Drains Are A Hideaway For Bacteria

Kitchen sinks and drains are a perfect place for bacteria to grow.

- Be sure to clean and sanitize sinks both before and after any foods are placed in them.
- If you have a double sink, you can make a sanitizing solution in one side of the sink and use it for wiping surfaces and sanitizing utensils and cutting boards used during food preparation. Before emptying the sink and after food preparation, dip some of the solution into the other side of the sink and let it sanitize that side as well. It's safe to run the solution through the garbage disposal as well.
- At least once a week, use a clean small brush to scrub around and in the drain to get rid of dirt and grime.

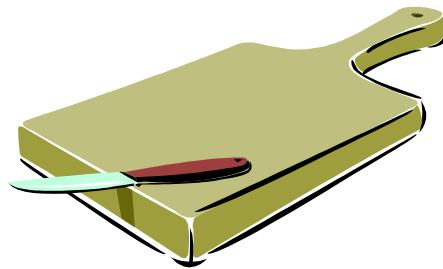
A toothbrush works well and it's cheap!



Bacteria Can Cling To Countertops

Countertops need to be cleaned too! Clean and disinfect all visible surfaces in your kitchen before and after preparing food.

- At least once a week, remove everything from your countertops. Wash all surfaces with warm, soapy water; then spray with a sanitizing solution. Allow to air dry or dry with a clean paper towel.
- Don't forget to clean all of the items that you took off of the countertop before you put them back.



Caring For Your Cutting Board

Cutting boards can hide bacteria that may then get on food when you cut it. If your cutting board has small holes, cracks or grooves, throw it away.

- Wash cutting boards in hot, soapy water before and after each use. Rinse and sanitize with a bleach solution. Spray the solution on the cutting board or dip the board in the solution. Allow the solution to stand on the cutting board for 5 minutes, then rinse and air dry or pat dry with clean paper towels.
- You can use glass, acrylic, plastic or wooden cutting boards, except softwoods like pine, as long as you wash and sanitize after each use.
- It is best to have separate cutting boards for raw meats, fruits and vegetables, ready-to-eat, and cooked foods.

A lot of people use cutting boards of different colors (e.g. green for veggies, red for raw meats), and types (wood for bread).



Refrigerators Need Special Attention

The growth of many bacteria is slowed down in the refrigerator. However, remember that they are still alive, and some can continue to multiply. Also, refrigerators are a perfect place for mold and yeast to grow.

Always wipe up spills when they occur.

- Once a week, take everything out of your refrigerator so it can be thoroughly cleaned. Store the food in a cooler with ice packs while you are cleaning the refrigerator.
- Clean and disinfect the sides, top, bottom, shelves, drawers, and handles of the refrigerator.
- Let the surfaces air dry or dry with paper towels before replacing the items.
- This is a good time to check for expired products, damaged packages, and signs of contamination while items are out of refrigerator.

**Remember. When in doubt,
throw it out!.**



WHAT DID YOU LEARN?

- 1. How long should you wash your hands? [Choose one answer]**
 - a. 5 seconds
 - b. 10 seconds
 - c. 20 seconds
 - d. 1 minute
- 2. Which is the correct amount of bleach to add to one quart of water to make a sanitizing solution? [Choose one answer]**
 - a. a few drops
 - b. one teaspoon
 - c. one tablespoon
 - d. one cup
- 3. When should dishcloths be cleaned and sanitized? [Choose one answer]**
 - a. at least once a week
 - b. whenever they look dirty
 - c. when there is a sale on dish cloths at the store
 - d. after each use
- 4. Refrigerators should be thoroughly cleaned at least once a week. [Choose one answer]**
 - a. True
 - b. False

The correct answers are on the next page

ANSWERS

1. How long should you wash your hands?

The correct answer is **(c. 20 seconds)**.

20 seconds is the correct answer, although it will not hurt to wash them longer. Just be careful not to break the skin when scrubbing vigorously.

2. Which is the correct amount of bleach to add to one quart of water to make a sanitizing solution?

The correct answer is **(b. one teaspoon)**.

It does not take much bleach to kill bacteria, and extra does not work any better.

3. When should dishcloths be replaced or washed?

The correct answer is **(d. after each use)**.

While b may seem correct, remember you cannot see bacteria.

4. Refrigerators should be thoroughly cleaned at least once a week.

The correct answer is **(a. True)**.

Remember, bacteria cannot be seen so regular cleaning is the only way to be sure the refrigerator is a safe place to store foods.



WHAT IS HOT AND WHAT IS NOT!

How do you know when your food is safe to eat? This question will be answered after reading the section below. So let's get started with learning about keeping your food safe.

Food Before It Is Cooked

Grocery Store

- Shop for non-refrigerated items first.
- Place cold foods together in the grocery cart.
- When your food is being bagged at the grocery store ask the bagger to pack all of your cold foods together.
- Try to go straight home after visiting the grocery store and refrigerate or freeze the foods as soon as you get home.
 - You have less than two hours from the time you remove the food from the refrigerated case in the store to get home and get the food in your refrigerator or freezer.
 - If it is extremely hot outside (over 90 degrees F [32° C]) then you have only one hour.
 - If you need more time, try packing a cooler in your car to keep the food cold.

Refrigerator

- Do not overstuff your refrigerator. Cold air needs to be able to move around your food to cool it properly.
- Your refrigerator needs to be at 40 degrees F (4.4° C). There are refrigerator thermometers that will help you keep your refrigerator at the proper temperature.
- Check your refrigerator thermometer daily. If the temperature is too hot, check it again in 30 minutes. If it is still too hot, lower the inside thermostat if possible. Food that is stored in a refrigerator that is too warm for over 2 hours should be thrown away.



Thawing Food

Refrigerator

- The safest way to thaw foods is in the refrigerator. This allows for a slow and safe thawing.
- It usually takes one day to defrost small amounts of food in the refrigerator.
- Larger frozen items such as a frozen turkey will need more time to defrost completely in the refrigerator.

REMEMBER THE DANGER ZONE IS 40 – 140 DEGREES F (4.4° – 60° C). WHEN FOOD IS LEFT ON THE COUNTER TO DEFROST OR IS DEFROSTED UNDER HOT WATER IT IS IN THE DANGER ZONE WHERE BACTERIA GROW.

Cold Water

- Is a fast way to thaw out frozen foods but some precautions are needed.
- Place the frozen food in a leak proof bag and submerge in cold tap water. Change the tap water every 30 minutes until the frozen food is thawed, or place the food in the sink and use cold, running water to thaw it. (Caution: this is really a waste of water - a valuable natural resource)

Microwave

- A microwave oven is another fast way to thaw out foods.
- When the microwave is used to defrost, it will start cooking the frozen item. When using this method, the food needs to be cooked right after it is thawed to prevent bacterial growth on the food.

Now that we know how to keep food safe from bacteria before cooking, let's learn about cooking the food. How do you know when your food is safe to eat?

- Do you look to see if the center is red?

- Do you pierce it with a fork to see if the juices run clear?
- Do you check the color of the food?

There is only one way to determine if your food is cooked completely and safely.

Cooking Food Safely:

Use a meat thermometer that has been calibrated (checked to see if it reads temperatures accurately).

- Calibrating the meat thermometer is one of the first things that should be done.
 - Place the stem of your thermometer into boiling water and the temperature should read 212 degrees F (100° C).
 - Some more expensive thermometers may have their own method of calibrating so read the instructions first.
- Insertion of the meat thermometer is also important. You want to be sure that

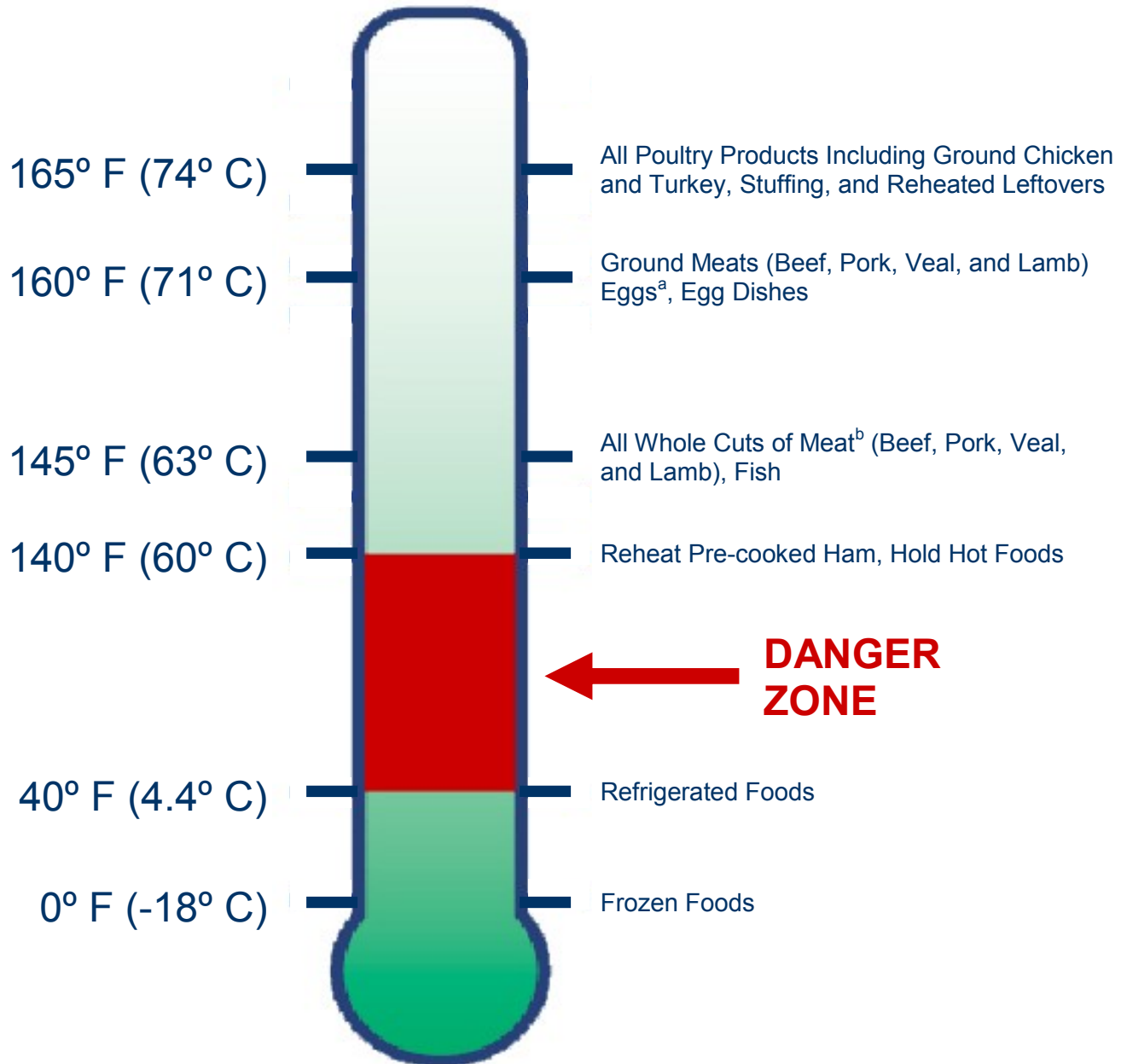


you insert the thermometer properly so you can get a correct reading to determine if your food is done.

- **Poultry** – Insert into the inner thigh area near the breast of the chicken or turkey but not touching the bone. For a boneless piece of poultry, insert the stem sideways into the thickest part, away from any fat or gristle.
- **Stuffing** – If used, stuffing must reach 165 degrees F (74° C). The temperature should be checked near the beginning and at the end of the serving time. It is recommended that the stuffing be cooked separately from the meat.
- **Beef, Pork, Lamb, Veal, Ham, Roasts, Steaks, or Chops** – Insert the thermometer, sideways if necessary, into the thickest part of the piece of meat, away from bone, fat, or gristle.
- **Ground Meat and Poultry** – Place the stem into the thickest part of ground meat or poultry dishes, such as meatloaf. The thermometer may be inserted sideways into thin items such as meat patties.
- **Casseroles and Egg Dishes** – The thermometer should be inserted into the thickest portion.

RECOMMENDED

Safe Internal Cooking and Storage Temperatures



^a Or until both the yolks and whites are firm

^b Whole cuts of meat include steaks, roasts, and chops

^b All whole cuts of meat need to rest for three minutes before carving

- Different types of foods require cooking to different internal cooking temperatures to be safe. On the facing page is a guide with the temperatures that your food should reach before it is considered safe to eat. You might copy this chart and place it somewhere in your kitchen so you can look at it when you are cooking.
- Some fish and seafood products are not included on this chart. Follow these guidelines to make sure they are cooked properly.
 - Fish cakes need to be cooked to 155 degrees F (68° C).
 - Stuffed fish needs to be cooked to 165 degrees F (74° C).
 - Shrimp and lobster turn red and the flesh becomes white or opaque (solid appearing).
 - Scallops turn milky white, opaque, and firm when cooked.
 - Clams, mussels, and oysters should be boiled for at least 3 minutes AFTER THEY OPEN during steaming. Discard any that do not open.

Microwave Ovens

- Microwaves cook food unevenly – hot in some places and cold in others – so be sure to check the temperature in the center of the food, not just on the edges.
- When using a microwave to cook food there are some rules to follow. Your dish should be covered, stirred, and rotated so that the cooking is more even.
- If your microwave does not have a turntable, you should open the door and turn the dish 180 degrees by hand at least twice during the cooking time.
- It is also important to observe any recommended standing time for the food. A lot of times the food is still cooking and needs a little time to cool so it can be eaten.

Other Special Circumstances

- Bring all sauces, gravies, and soups to a boil when reheating.
- Leftovers should be thoroughly reheated to 165 degrees F (74° C).
- Never eat foods containing raw milk or raw eggs.

Keeping Your Food Safe After Cooking

Now that you have prepared a bacteria safe meal how do you keep the bacteria from coming back? You will find this information in other sections of the readings.

Remember the danger zone is 40 – 140 degrees F (4.4° – 60° C) so you do not want your food to be in that temperature range for more than 2 hours. If the air temperature is above 90 degrees F, do not keep foods in the danger zone for more than 1 hour.

Other Storage Tips

- Label foods with the date they were opened. It is easy to forget when an item was actually opened or used last.
- Place all leftovers in safe, preferably air tight storage containers. Label the container with the name of the food and the date it was prepared.
- You have probably heard the statement “keep hot foods hot and cold foods cold”. This is one of the best ways to avoid getting sick from eating something that was not stored properly or soon enough.
- Hot foods should be kept at 140 degrees F (60° C) or above. Cold foods should be kept at 40 degrees F (4.4° C) or below.
- Hot foods that are going to be cooled need to reach 40 degrees F (60° C) within 2 hours.
- 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 separately from the poultry.
- Any perishable food, including cut produce, left at room temperature for more than two hours needs to be thrown into the garbage.
- Raw meat and poultry products in the refrigerator or freezer need to be wrapped securely so the bacteria juices do not drip onto other foods. Those in the refrigerator should be put on the bottom shelf, on a plate, or in a container.

WHAT DID YOU LEARN?

- 1. What is the only way to make sure your food is free from the bacteria that cause foodborne illness? [Choose one answer]**
 - a. Pierce the food with a fork and see if the juices run clear.
 - b. Cook the food until it reaches the recommended internal temperature on a meat thermometer.
 - c. Cut into the food and check the color of the center.
 - d. Stop the cooking process after the length of time specified in the recipe.
- 2. The easiest way to remember the recommended cooking times for food is to: [Choose one answer]**
 - a. Memorize them.
 - b. Cook everything to the same temperature.
 - c. Write it on the bottom of the cooking pan.
 - d. Put a list somewhere accessible in your kitchen for reference.
- 3. You are finished grocery shopping, but have one more errand to run before you can return home. It is 98 degrees F (37° C) today. How long do you have to refrigerate or freeze your cold foods to prevent excess growth of bacteria? [Choose one answer]**
 - a. No time, this process begins right away.
 - b. 1 hour.
 - c. 1 1/2 hours
 - d. 2 hours

The correct answers are on the next page

ANSWERS

1. **What is the only way to make sure your food is free from the bacteria that cause foodborne illness?**

The correct answer is **(b. Cook the food until it reaches the recommended internal temperature on a meat thermometer).**

Just because a food looks “done,” does not mean that it is free from the bacteria that cause foodborne illness.

2. **The easiest way to remember the recommended cooking times for food is to:**

The correct answer is **(d. Put a list somewhere accessible in your kitchen for reference).**

The reference list is included in this booklet, is not very large, and can easily be taped inside a cupboard door or your favorite cookbook. Refrigerator magnets are also available from USDA.

3. **You are finished grocery shopping, but have one more errand to run before you can return home. It is 98 degrees F (37° C) today. How long do you have to refrigerate or freeze your cold foods to prevent excess growth of bacteria?**

The correct answer is **(b. 1 hour).**

Usually you have 2 hours before the number of bacteria reaches potentially dangerous levels, but on hot days, you should refrigerate or freeze any foods that need it within 1 hour.



Back Cover:



Campylobacter

Credit: De Wood, Pooley, USDA, ARS, EMU



Listeria monocytogenes

Credit: CDC/Dr. Balasubr Swaminathan; Peggy Hayes



Escherichia coli

Credit: Rocky Mountain Laboratories, NIAID, NIH



Staphylococcus aureus

Credit: Erbe, Pooley: USDA, ARS, EMU



Salmonella

Credit: Rocky Mountain Laboratories, NIAID, NIH

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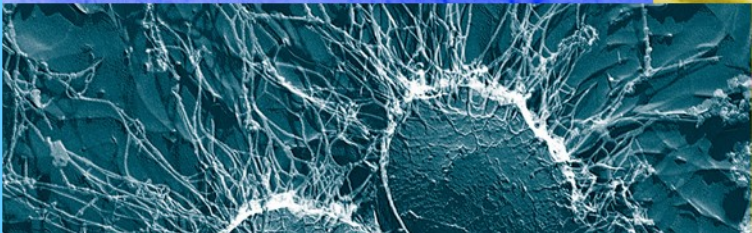
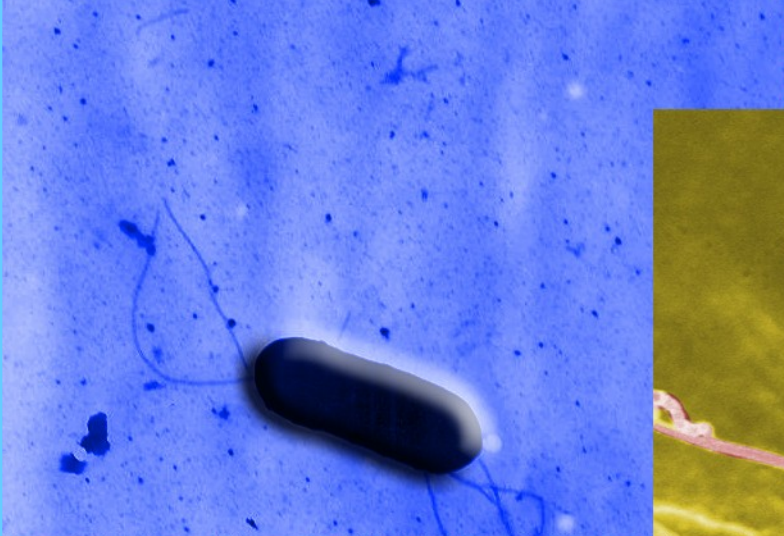
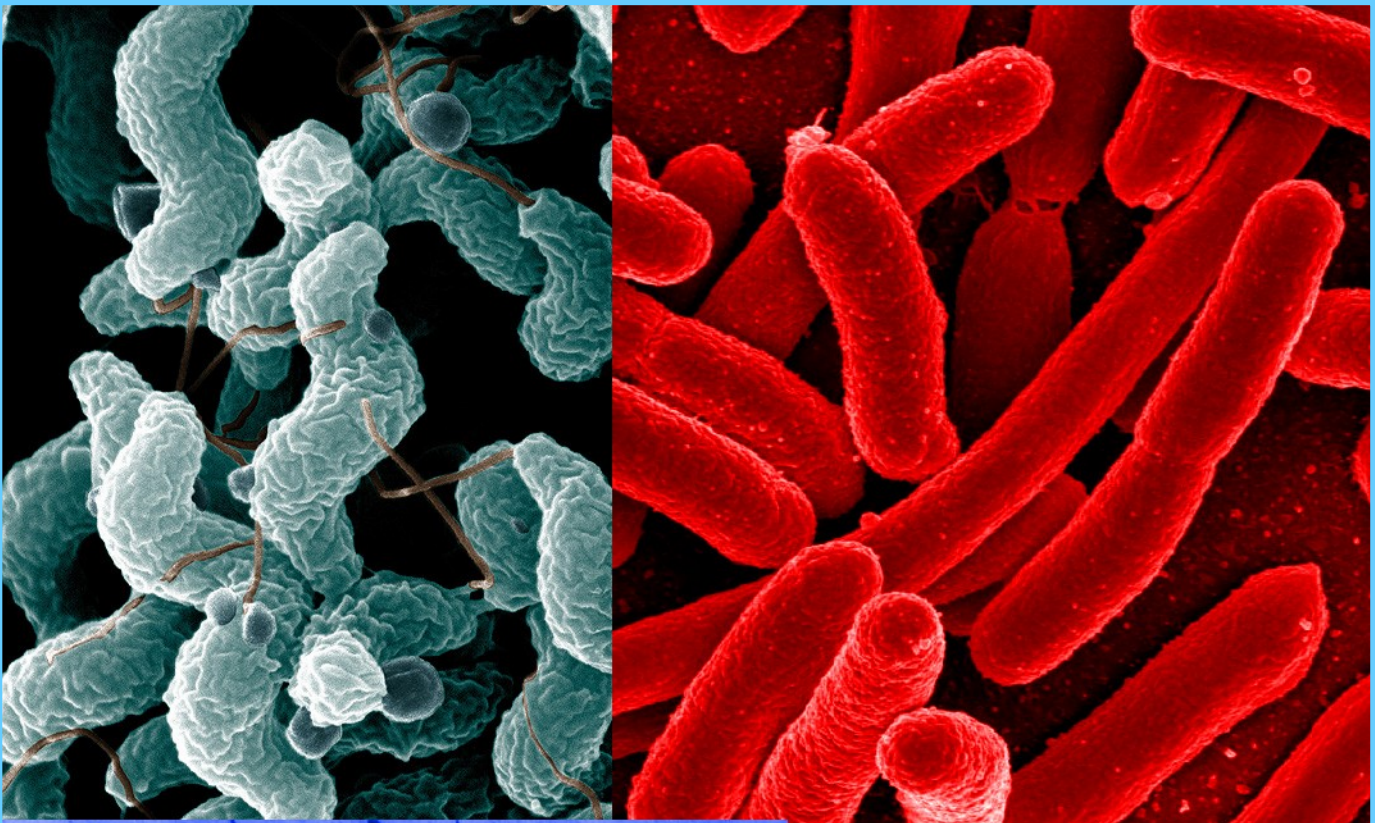
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