Your Kitchen, Your Food, Your Health

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Your Kitchen, Your Food, Your Health

Goals and Objectives

- Review statistics of people effected by foodborne illness annually
- Provide knowledge of the most common pathogens and their "claims to fame"
- Identify common places of contamination in your kitchen that could make you sick
- Provide tips, "tried and true," to get you through

Materials (available from http://teea.tamu.edu)

- Your Kitchen, Your Food, Your Health PowerPoint
- Fight Bac to Stay Healthy Handout (optional) http://agrilife.org/fcsfoodsafety/files/2016/03/Fight-Bac-To-Stay-Healthy-FN-7.pdf
- Your Kitchen, Your Food, Your Health Evaluation

Additional Resources

Texas A&M AgriLife Extension Food Safety Education https://foodsafety.tamu.edu/home-food-safety/

Texas A&M AgriLife Extension

FIGHT BAC! TO STAY HEALTHY

As you enjoy your foods, follow these safe food handling tips to help protect you and your family from foodborne illness.

Check

-Check fruits and vegetables for mold, damage, cuts, and bruises

-Check for expiration dates
-Make sure pre-cut fruit and salads are refrigerated

-Check cans for dents and holes, and make sure the can is not swollen

Clean

-Wash hands with warm soapy water for at least 20 seconds before and after handling meat, fruits, and vegetables

-Clean all surfaces, cutting boards, and knives with hot soapy water before and after using them

Rinse

-Just before you use them, rinse fruits and vegetables

-Do not use soap or bleach to wash fresh fruits or vegetables

Separate

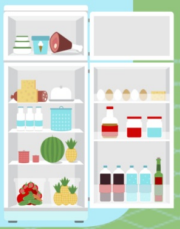
-Keep raw meat, seafood, poultry, eggs, and household chemicals separate from fresh foods at all times

-Do not use the same cutting board or utensils without cleaning with hot soapy water

Chill

-Keep your refrigerator at or below 40 °F

-Refrigerate all cut, peeled, or cooked fresh fruits and vegetables within two hours of preparing



Throw Away

-Throw away any fresh food that have touched raw meat, poultry, seafood, or uncooked eggs

-Throw away any foods that are past their expiration date

Adapted from: http://www.fightbac.org/storage/Refreshed_Produce_Campaign/ConsumerFact_Sheet.pdf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Objectives

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- Provide tips, “tried and true,” to get you through

Did you know …

- 48 million illnesses (1 in 6 Americans)
- 128,000 Americans will be hospitalized
- Over 3,000 deaths (8 Americans each day)

https://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html

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The CDC estimates that each year roughly 1 in 6 Americans (or 48 million people) get sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases.

Symptoms of Foodborne Illness

- Upset stomach
- Stomach cramps
- Nausea
- Vomiting
- Diarrhea
- Fever

- More severe:
  - Bloody stools
  - High fever
  - Frequent vomiting
  - Dehydration

https://www.cdc.gov/foodsafety/symptoms.html

Food poisoning symptoms may range from mild to severe and may differ depending on the germ swallowed. The most common symptoms of food poisoning are:

- Upset stomach
- Stomach cramps
- Nausea
- Vomiting
- Diarrhea
- Fever

After you consume a contaminated food or drink, it may take hours or days before you develop symptoms. If you experience symptoms of food poisoning, such as diarrhea or vomiting, drink plenty of fluids to prevent dehydration.

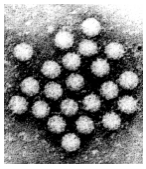
When to See a Doctor for Food Poisoning

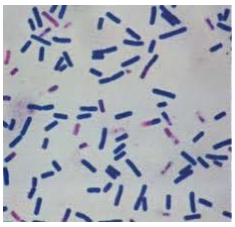
See your doctor or healthcare provider if you have symptoms that are severe, including:

- Bloody stools
- High fever (temperature over 102°F, measured orally)
- Frequent vomiting that prevents keeping liquids down (which can lead to dehydration)
- Signs of dehydration, including little or no urination, a very dry mouth and throat, or feeling dizzy when standing up
- Diarrhea that lasts more than three days

Top 5 FBI Causing Pathogens

1. Norovirus
2. *Salmonella*
3. *Clostridium perfringens*
4. *Campylobacter*
5. *Staphylococcus aureus*





https://www.cdc.gov/foodborneburden/2011-foodborne-estimates.html

(FBI = Foodborne Illness)

There are 31 pathogens known to cause foodborne illness. Many of these pathogens are tracked by public health systems that track diseases and outbreaks. Eight of these known pathogens account for most illnesses, hospitalizations, and deaths.

Salmonella-non Typhoidal and Norovirus account for most of the illnesses resulting in hospitalizations. Salmonella and Toxoplasma gondii are the top two causing death in the U.S.

The **top five germs** that cause illnesses from food eaten in the United States are:

- Norovirus
- *Salmonella*
- *Clostridium perfringens*
- *Campylobacter*
- *Staphylococcus aureus* (Staph)

Figure 1. Contribution of different food categories to estimated domestically-acquired illnesses and deaths, 1998-2008*

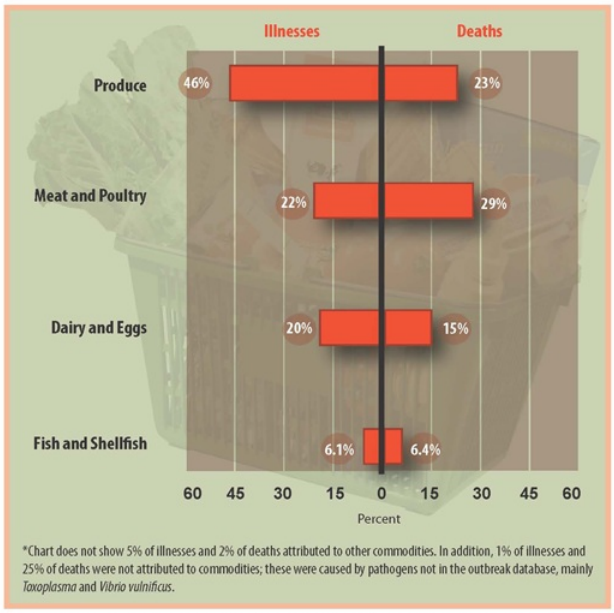


*Chart does not show 5% of illnesses and 2% of deaths attributed to other commodities. In addition, 1% of illnesses and 25% of deaths were not attributed to commodities; these were caused by pathogens not in the outbreak database, mainly *Taxoplasma* and *Vibrio vulnificus*.

Source: Painter JA, Hoekstra RM, Ayers T, Tauxe RV, Braden CR, Angulo FJ, Griffin PM. Attribution of foodborne illnesses, hospitalizations, and deaths to food commodities by using outbreak data, United States, 1998–2008. Emerg Infect Dis [Internet]. 2013 Mar [date cited]. http://dx.doi.org/10.3201/eid1903.111866

You can see on this chart that produce contributes to the most illnesses at 46%, and about a quarter (23%) of all deaths. Meat and poultry cause 22% of illness, while causing 29% of deaths. Dairy and eggs cause 20% of illnesses and 15% of deaths, while fish and shellfish cause 6.1 % of illnesses and 6.4% of deaths.

Foodborne Outbreaks

- 21% from home
- 48% from food prepared outside the home

https://www.cdc.gov/mmwr/preview/mmwrhtml/ss6202a1.htm

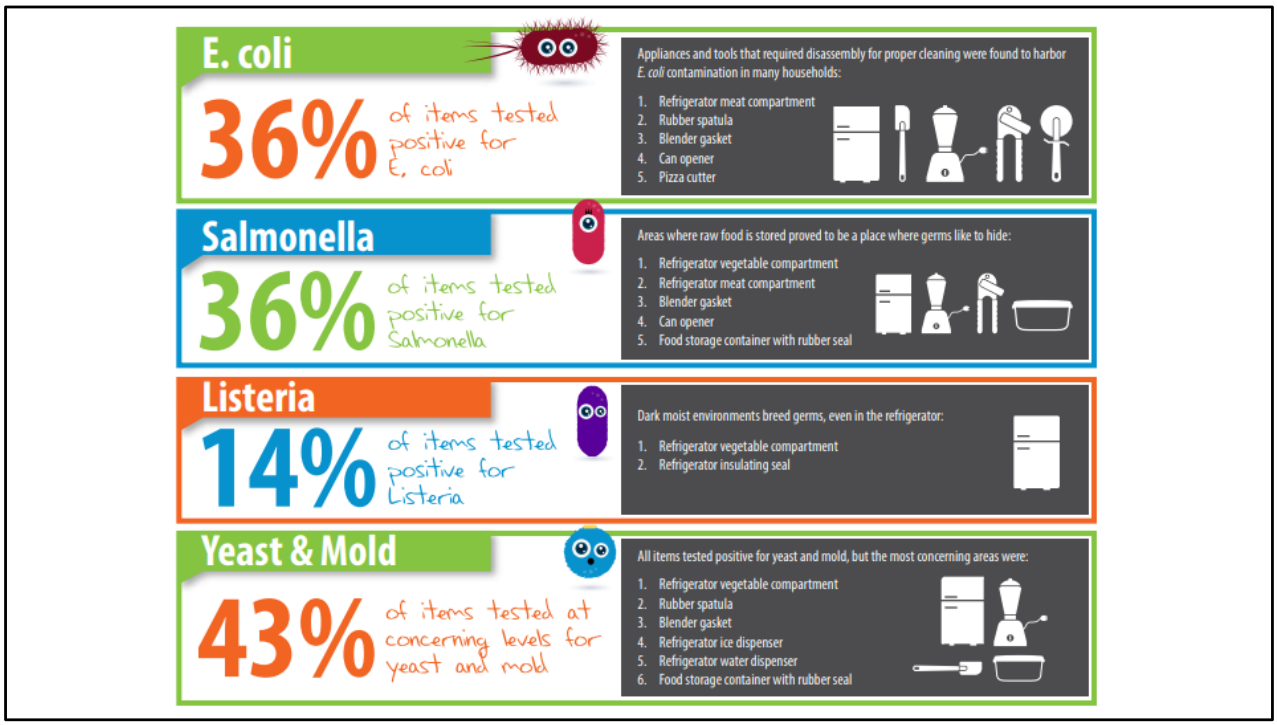
Twenty-one percent of U.S. outbreaks of foodborne illness with a known single setting resulted from food consumed in a private home, compared with 48% that stemmed from food eaten in a restaurant or deli, according to CDC statistics for 2009-10. Now, let's look at where in the home causes of foodborne illnesses can hide.

Germiest Places in the Kitchen

2013 NFS International Household Germ Study

https://www.nsf.org/knowledge-library/clean-germiest-kitchen-items

As part of its 2013 NSF International Germ Study, NSF's microbiology team analyzed several kitchen appliances and tools for the presence of foodborne pathogens. This study reveals what common kitchen appliances and tools used to store and prepare food can harbor organisms, which cause foodborne illness if not cleaned properly.



Of surfaces tested, 36% of those items tested positive for E. Coli, 36% tested positive for Salmonella, 14% tested positive for Listeria, and 43% of tested surfaces tested positive for yeasts and molds.

Refrigerator Vegetable Compartment

- One of the germiest places in tested homes
- Avoid cross-contamination:
  - Store produce separately
  - Separate ready to eat foods from unwashed or raw foods
- How to properly clean:
  - Remove drawer
  - Use clean sponge or soft cloth and wash the bin with mild detergent and warm water
  - Rinse with tap water and allow to air dry or use a clean cloth

NSF scientists found refrigerator vegetable compartments to be one of the germiest places in test homes. Germs found included *Salmonella* and *Listeria*, as well as yeast and mold.

To effectively clean the vegetable compartment, first remove the drawer from the refrigerator if possible. Use a clean sponge or soft cloth and wash the bin with a mild detergent mixed with warm water. Rinse with tap water and wipe dry with a clean towel. To help control odors, use warm water mixed with a baking soda solution (about 1-2 tablespoons of baking soda to 1 quart of water). Rinse, wipe dry and clean monthly.

Always store produce separately. To avoid cross-contamination, separate ready-to-eat and unwashed produce. Separate all produce from other foods — such as raw meat, poultry and seafood. In the refrigerator, produce should always be stored on a separate shelf above meat, poultry and seafood to avoid raw juices dripping onto the produce. Keep them separate in your grocery cart too, and during food preparation while using kitchen tools and appliances.

Refrigerator Meat Compartment

- Top hiding spot for pathogens
- How to properly clean:
  - Remove drawer
  - Use clean sponge or soft cloth and wash the bin with mild detergent and warm water
  - Rinse with tap water and allow to air dry or use a clean cloth

https://www.nsf.org/knowledge-library/clean-germiest-kitchen-items

Perhaps not surprisingly, refrigerator meat compartments were also found to be one of the top hiding places for germs. In addition to yeast and mold, both *Salmonella* and *E. coli* were found.

To effectively clean, remove the compartment/drawer from the refrigerator if possible. Use a clean sponge or soft cloth and wash the bin with a mild detergent mixed with warm water. Rinse with tap water and wipe dry with a clean towel. To help control odors, use warm water mixed with a baking soda solution (about 1-2 tablespoons of baking soda to 1 quart of water). Rinse, wipe dry and clean monthly — and whenever you see any spilled meat juices.

In the refrigerator, store meat and seafood on a separate shelf below produce to avoid raw juices dripping onto the produce.

Blender Gasket

- Often overlooked, but still full of germs
- How to clean:
  - Unplug and remove the jar from its base
  - Completely disassemble, removing blade and gasket
  - Place in dishwasher after each use
    - If hand washing
      - Wash gasket, blade and jar separately and thoroughly in hot, soapy water and rinse
      - Allow to completely air dry prior to re-assembling

Although many of the households tested didn't consider blenders to be a germy item, they were the third germiest item in this study. *Salmonella*, *E. coli.*, yeast and mold were all found on blender gaskets.

To clean, unplug the blender and remove the blender jar from the base. Completely disassemble the jar and remove the blade and gasket at the bottom. If dishwasher safe, place all pieces in the dishwasher after each use. If hand washing, wash the gasket, blade assembly, jar and lid thoroughly in hot, soapy water — rinse and dry before re-assembling. Perform this cleaning procedure after each use.

Can Opener

- Used often in most kitchens
- How to clean:
  - Run through dishwasher after use (if dishwasher safe)
  - If hand washing:
    - Wash with hot, soapy water
    - Rise with clean tap water
    - Allow to air dry

While many individuals recognized that can openers could harbor germs, the NSF germ study found that these items were not being cleaned effectively, as traces of *Salmonella*, *E. coli.*, yeast and mold were all detected.

To effectively clean, place the can opener in the dishwasher after each use (if dishwasher safe). If hand washing, wash the can opener in hot soapy, water — rinsing thoroughly with clean tap water before air drying after each use. If hand washing, pay special attention to the area around the cutting blades to be sure all food residue is removed.

Rubber Spatula

- One of the top 10 dirty spots
- How to clean:
  - If two pieces, separate the handle from spatula portion
  - Place in dishwasher if possible
  - If washing by hand:
    - Wash with hot, soapy water
    - Rinse thoroughly with clean water
    - Allow to air dry

Like can openers, most individuals identified rubber spatulas as one of the top 10 places for germs to potentially hide. NSF's scientists discovered that these items were not being properly cleaned, as *E. coli.*, yeast and mold were all found.

To clean, for two-piece spatulas, it's important to separate the handle from the spatula portion. If dishwasher safe, place both sections in the dishwasher after each use. If hand washing, wash in hot, soapy water, rinsing thoroughly with clean water. For one-piece spatulas, if dishwasher safe, place in the dishwasher after each use. Otherwise, hand wash thoroughly in hot, soapy water — paying special attention to the area where the handle joins the spatula. Rinse thoroughly and dry.

Food Storage Container with Rubber Seal

- Eighth germiest place in the kitchen
- How to clean:
  - Remove lid and place both lid and container in dishwasher
  - If hand washing:
    - Wash both container and lid with hot, soapy water
    - Rinse with clean tap water
    - Allow to air try

Tests revealed storage containers were the eighth germiest place in the kitchen. Salmonella, yeast and mold were all detected.

If dishwasher safe, place both the container and the lid in the dishwasher and wash after each use. If hand washing, wash both the container and lid in hot soapy water, paying special attention to the area around the seal as well as any grooves where the cover attaches to the container. Rinse thoroughly and allow to air dry.

Refrigerator Water and Ice Dispenser

- Concern with yeast and molds
- Concerning for individuals with allergies
- How to clean:
  - Follow manufacture directions when possible
  - A vinegar and water solution is often recommended

While the refrigerator water and ice dispenser didn't make the top 10 list of germiest places, the dispenser proved to be a concern for both yeast and mold, which can be a significant problem for individuals with allergies.

Check your refrigerator manual for cleaning instructions. Many companies recommend using a solution of vinegar and water to clean the dispenser and ice maker. First, turn off the water supply to the refrigerator and then loosen the screw connecting the water supply line to the refrigerator. Once disconnected, use a small funnel to pour 3 to 4 cups of distilled white vinegar into the tube. Wait five to 10 minutes and then reconnect the water line. Turn the dispenser on to allow the vinegar solution to flow through the dispenser's system and spill out through the waterspout.

To clean the waterspout, use a bottle or baby bottle nipple brush dipped in distilled white vinegar. Brush the inner side of the spout, then open the waterspout and allow it to run clear of any dirt and excess vinegar solution. Close the lever when there are no traces of vinegar. Clean the waterspout weekly and the refrigerator water dispenser system once or twice a year.

Knife Block

- Pathogens like dark places
- To clean:
  - Remove any knives in block
  - Turn the block over and shake out any debris
  - Take a can of compressed air and blow into the slots
  - Wash with hot, soapy water while using a small brush to clean inside the knife slots
  - Rinse with clean water
  - Sanitize with bleach solution
  - Allow to air dry

Dark, moist environments can be a breeding ground for germs, and knife blocks proved to be no exception. Both yeast and mold were found in the knife blocks present in this year's test homes.

To clean, first remove any knives stored in the block. Turn the knife block upside down and shake lightly — or use a can of compressed air to remove crumbs and other loose debris. Hand wash the knife block in hot, soapy water, using a small brush (like a baby bottle nipple brush) to scrub out the knife slots. Rinse thoroughly with clean water. To sanitize, prepare a bleach solution of five tablespoons (1/3 cup) bleach per gallon of water or four teaspoons bleach per quart of water.

Either immerse the complete block in the water/bleach mixture or fill the knife slots. Allow the bleach solution to sit in contact with the slots for one minute. Rinse the block and knife slots thoroughly with clean tap water and place the block upside down on a clean surface to air dry. To avoid mold and bacterial buildup, wash knives thoroughly after each use and let them dry completely before placing them in the knife block. Wash and sanitize the knife block monthly if used frequently.

Other Areas of Concern

- Sponges and dishrags
- Kitchen sink and counter tops
- Coffee Maker
- Kitchen stoves
- Animal food dishes

https://d2evkimvhatqav.cloudfront.net/documents/where_germs_are_hiding_infographic_sm.pdf?mtime=20200713162752&focal=none

In another study, the NSF found that more than 75% of sponges and dishrags harbored coliform bacteria — which includes *Salmonella* and *E. coli*. Most sponges also had yeast and mold, and *Staphylococcus aureus*, or staph, was present on sponges in 18% of households.

"Sponges pick up bacteria during the cleaning process and are typically not properly — or regularly — sanitized before their next use," said Dr. Rob Donofrio, former Director of Microbiology at NSF.
"Sponges are also wet and damp, providing perfect conditions for bacteria to grow. Change out sponges often or microwave for about two minutes to kill bacteria, and launder dishrags in hot water."

Give them a quick swipe with a sponge or rinse with water and they're clean, right? Unfortunately, the sink and countertops in your kitchen are likely host to an array of bacteria. Countertops can pick up germs from produce and grocery bags.

The NCF found that about a third of the countertops swabbed had coliform bacteria. Using a dirty sponge to wipe them down also spreads bacteria around.

Kitchen sinks offer a fertile breeding ground for bacteria, too, since they can feed off leftover food particles. The NCF recommends cleaning the sink once or twice a week with a disinfectant.

COFFEE MAKER — Being dark and damp, this is a prime location for bacteria and mold to hide. Fill the machine with up to four cups of vinegar in the tank and let it stand for 30 minutes. Run a cycle with the vinegar, followed by two or three cycles with water until the vinegar smell diminishes.

KITCHEN STOVE — Often overlooked, they are often in contact with contaminated hands and food. Once a week, remove all the buttons and soak them in hot, soapy water — rinse them well and let dry.

BATHTUB AND SHOWER — Twenty-six percent of baths and showers harbor a bacteria called *staphylococci* — compared to the 6% found in garbage cans. Clean with hot water to remove anything from the drain, and make sure to disinfect regularly.

ANIMAL FOOD DISH — Animals often carry germs without our knowledge, especially through their saliva. Food dishes should be washed daily — either in the dishwasher or by hand with hot, soapy water.

Summary

- Germs/pathogens can be anywhere
- Foodborne illnesses can be prevented
- Proper cleanliness and sanitation are crucial to helping prevent foodborne illness

NSF's 2013 germ study found germs on many everyday kitchen appliances and tools that come in direct contact with food — especially raw produce, meat, poultry, seafood and ready-to-eat items. While many germ study individuals correctly identified items that they thought would harbor the most germs, the study revealed that they are not always cleaning them sufficiently to prevent illness.

These findings are most concerning for households with at-risk populations, such as children, pregnant women, the elderly, or those with a compromised immune system (from illness). The lesson we can all learn as consumers is to follow manufacturer's directions when it comes to cleaning and sanitizing kitchen tools and appliances.

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Your Kitchen, Your Food, Your Health

Please take a moment to provide feedback on this program.

1. Regarding the **overall program/teaching** (rate your response by circling a number):

Statement	Scale (1= Worst, 5 = Best)
The value of the lesson was	**1** not valuable **2** **3** **4** **5** very valuable
The overall teaching was	**1** poor **2** **3** **4** **5** excellent
The teacher's knowledge of the lesson was	**1** poor **2** **3** **4** **5** excellent

2. Regarding **what you know and actions you plan to take** (circle your response):

I learned new information today. YES NO

I plan to use the information I learned today. YES NO

I feel this information will help me do better at cleaning my kitchen. YES NO

I have a better understanding of foodborne illness and symptoms. YES NO

I plan to share this information with my friends and family. YES NO

3. This lesson was delivered by a(n) (check only one):

_____ TEEA Member. _____ Extension Agent/Specialist _____ Other Speaker.

4. Please tell us about yourself.

I am a _____ Woman. _____ Man.

I am in District: **1 2 3 4 5 6 7 8 9 10 11 12**

I have been a member of TEEA for _____ years.

My age is _____ years-old.

5. Additional Comments.

Thank You For Completing This Form!