

Listeria

Resources for Industry



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Overview

- Provide resources to be used in the work environment for Listeria control
- Provide employee training resources related to Listeria control



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Listeria monocytogenes (Lm)

Lm is a bacteria found in most environments, soil, and decaying vegetation. It causes the foodborne illness, listeriosis.

Transfer of Lm from the environment, equipment, employees, or raw food is a particular hazard of concern in retail delis.

Lm can cross-contaminate food contact surfaces and food. Transfer, sanitation, product handling, and employee practices can lead to the transfer of Lm to RTE meat and poultry products at retail.

Lm forms biofilms (thin layers of microorganisms that stick to product contact surfaces) that are difficult to remove from equipment and other surfaces.

Listeriosis

Serious infection can result from eating food contaminated with Lm.

Infection is rare, but could result in a high fatality rate (15% compared to 0.5% for Salmonella or E. coli O157:H7).

It affects everyone, with older adults, pregnant women and fetuses, newborns, children, and adults with weakened immune systems being at higher risk.

Flu-like symptoms can begin a few days after consuming contaminated products. However, invasive listeriosis, which can affect the central nervous system and may cause stillbirth or result in death, can begin up to 2 months after eating food contaminated with Lm.

There are an estimated 1,600 illnesses, 1,500 hospitalizations, and 260 deaths in the U.S. each year.


Product Handling

It is important to adopt practices that protect RTE product from contamination with Lm (see bullets below on ways to prevent or limit the growth of Lm in deli products).


- Use products that contain antimicrobial agents or have received other treatments to eliminate or prevent the growth of Lm in RTE products.
- Monitor and limit the shelf life of an RTE product that is opened, prepared, and held in a retail setting for more than 24 hours.
- Do not pre-slice products - product should be sliced at the time it is requested by consumers.
- Remove products that are fatty, acidic, decomposed, slimy, rancid, or in off condition from the deli area as soon as possible and thoroughly clean and sanitize areas that were contacted by such product to prevent any cross-contamination.
- Promptly return RTE products to refrigerated units (at or below 41°F), after slicing, to slow pathogen growth.
- Store and handle RTE products in separate areas from raw products. RTE products that are prepared, held, or stored near raw products can become contaminated (e.g., because of aerosolization or dripping).

A number of food safety practices are needed to control Lm contamination of retail foods.

Cleaning and Sanitizing



- Develop written sanitation procedures that describe how utensils and equipment (e.g., slicers) will be cleaned and sanitized prior to use.
- Clean and sanitize utensils and equipment used to handle, prepare, and store RTE products frequently (e.g., at least every 4 hours).
- Disassemble RTE food-processing equipment when cleaning and sanitizing to ensure that hard to reach areas where Lm can hide are addressed.
- Scrub surfaces during cleaning to prevent biofilms from occurring.
- Follow the manufacturer's recommendations for sanitizer strength and application, including exposure time, to ensure it is effective.
- Consider rotating sanitizers to provide more effective biocontrol.
- Develop a procedure to sanitize cleaning aids (e.g., cloths and scrub brushes) or have single-use items that are discarded after use.
- Use low water pressure when cleaning in the deli areas to minimize splashing and overspray.
- Use separate sinks for hand washing and cleaning product or equipment.
- Eliminate or remove unnecessary items (i.e., supplies and equipment) from the deli area.



Employee Practices

- Train employees in sanitation practices and safe food handling procedures.
- Ensure that employees wear gloves and change them as needed to prevent cross-contamination of RTE products.
- Provide adequate facilities, including soap and running water, and post instructions for employees to wash their hands.
- Implement a policy to ensure that if employees do not work with open food items, including RTE foods.
- Limit employee traffic in the deli area and develop traffic-flow plans for product, employee, and other items to prevent contamination by consumers and employees.
- Develop practices to prevent outer clothing from spreading contamination, such as wearing disposable aprons.

For more information and a checklist of practices for your deli, go to FSIS Best Practices Guidance for Controlling Listeria monocytogenes (Lm) in Retail Delicatessens at <http://www.fsis.usda.gov/food-safety-practices-and-inspection-regulation-compliance/retail-food-protection-act-codex-174275.htm>

Additional information on Listeria is at <http://www.fda.gov/food/foodsafety/practices-and-inspection-regulation-compliance/listeria>

Facility and Equipment Controls

- Do not allow conditions in the retail facility that could cause the product to become contaminated.
- Ensure that walls, floors, drains, and overhead structures in the RTE deli and cooler areas are smooth, durable, easily cleanable, and in good repair.
- Do not perform construction (e.g., replacing floors, walls, or ceilings) when exposed RTE product is present in the deli. Thoroughly sanitize the equipment and facilities after construction and before handling product.
- Maintain tables, slicers, and other food contact surfaces so that they are easily cleanable.
- Clean overhead structures as often as necessary to keep them free of condensation and ensure that sanitary conditions are maintained.
- Keep water from pooling on the floor or other surfaces within the deli area.
- Clean and sanitize surfaces between different types of RTE items (for example, raw, seafood, and vegetables) when using the same equipment.
- Ensure that grinders, slicers, scoops, or other equipment are maintained in sanitary condition.
- Maintain product cases and storage at or below 41°F to slow Lm growth.


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Guidance for Controlling Listeria monocytogenes (Lm) in Retail Delicatessens

Best practice tips for deli operators

The information in this brochure is taken from FSIS Best Practices Guidance for Controlling Listeria monocytogenes (Lm) in Retail Delicatessens. These are suggestions and not requirements.

Operators should be aware that the recommendations in this guidance, especially those based on the 2013 Food Code may be requirements in State, local, or tribal regulations.



<https://www.fsis.usda.gov/wps/wcm/connect/706237dc-da95-4ad1-849a-3570ed163ca4/LM-at-Retail-Brochure.pdf?MOD=AJPERES>

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FOOD FACTS

Preventing Listeria Infections: What You Need to Know



The Risk

Certain foods - including ready-to-eat refrigerated foods, unpasteurized (raw) milk, and foods made with unpasteurized milk - often may be contaminated with *Listeria monocytogenes* (Lm), the third leading cause of death from food poisoning. The foodborne bacteria can grow at refrigerator temperatures and can cause an illness that in most healthy people is unpleasant but not serious. But in people who are at high risk, Lm can cause an illness called listeriosis which can be severe and we lead to death. The people at highest risk include pregnant women and their unborn babies, newborns, older adults, and other persons with weakened immune systems, such as those with HIV/AIDS, cancer, diabetes or kidney disease, and transplant patients.

While a pregnant woman may have only a mild, flu-like illness, may not feel sick at all, listeriosis can lead to miscarriage, death of the unborn baby, a low birth weight infant, health problems for the newborn, or even infant death. That's why reducing risk from Listeria is so important.

How to Reduce Your Risk from Listeria: 3 Easy Steps

There are three very simple things you can do to help prevent illness from Listeria:

1. **Check as the Right Temperature:** The right temperature of the refrigerator thermometer in the refrigerator and adjust the refrigerator temperature control, if necessary. Put a second thermometer in the freezer. Your refrigerator should register at 40°F (4°C) or below and the freezer at 0°F (18°C).
2. **Use Ready-to-Eat Foods Safely!** Use ready-to-eat, refrigerated foods by the Use By date on a package. The longer they're stored in the refrigerator, the more chance Listeria has to grow.
3. **Keep the Refrigerator Clean!** Clean your refrigerator regularly. Wipe up spills immediately. This is particularly important, as Listeria doesn't have a place to grow and then spread to all foods. Clean the inside walls and shelves with hot water and a mild liquid dishwashing detergent, then dry with a clean cloth or paper towel.

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Temperature Check!

Use an appliance thermometer for your refrigerator and, if possible, one in your freezer.

Put the thermometer in the middle of the refrigerator. After 5 minutes, if the temperature is above 39° to 40°F (4° to 4°C), adjust the refrigerator temperature control to a lower setting. Check again after 4 to 6 hours.

Put the thermometer between frozen food packages in the freezer. After 4 to 6 hours, if the temperature is above 1° to 2° (33° to 35°C), adjust the freezer temperature control to a lower setting. Check again after 4 to 6 hours.



To Eat or Not to Eat?

Choosing the right foods and preparing them safely help reduce the risk of illness from Listeria for at-risk people.

High-Risk Foods	Lower-Risk Foods
Hot dogs and luncheon meats - unless they're thoroughly reheated	Hot dogs and luncheon meats that have had to be an internal temperature of 160°F measured with a food thermometer
Soft cheeses, such as Feta, Brie, Camembert, "Blue-veined" cheeses, or "Spicy blues," "Queso fresco," or "Queso" - that are made with unpasteurized milk	Soft cheeses labeled "Made with pasteurized milk"
Refrigerated pizza or meat spreads	Canned or shelf-stable pizza or meat spreads
Refrigerated smoked seafood - unless it's in a cooked dish, such as a casserole. (Refrigerated smoked seafood, such as salmon, trout, whitefish, cod, tuna, or mackerel is most often labeled as "nova style," "loose," "smoked," "herbed," or "dry.") These types of fish are found in grocery store refrigerated sections or deli counters or sold at deli counters.	Canned or shelf-stable smoked seafood
Unpasteurized milk or foods that contain unpasteurized milk	Pasteurized milk and foods made with pasteurized milk
Foods that can be safely stored at room temperature, or "for the shelf," are called shelf-stable.	





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Follow These Steps For Food Safety:



Clean: Wash your hands before, during and after handling food. Wash animals, cutting boards, and any surfaces that food touches after each use. Wash from one ingredient - but not meat, poultry, or eggs.

Separate: Use separate cutting boards, plates, and utensils for raw (uncooked) produce and for raw (uncooked) meat, poultry, seafood, and eggs. Keep meat, poultry, seafood, and eggs separate from all other foods while shopping and in the refrigerator.

Cook: Only a food thermometer can make sure meat, poultry, fish, and vegetables are cooked to a safe internal temperature. For example, internal temperatures should be 160°F for whole meats before the need to rest after cooking for 3 minutes and fish, 165°F for ground meats, and 180°F for all poultry. Sops should be cooked until the pork is firm.

Chill: Use appliance thermometers to be sure your refrigerator is at or below 40°F and your freezer is 0°F or below. Between 40°F and 140°F is the Danger Zone, when bacteria can multiply rapidly. Generally, the more bacteria, the more likely someone will get sick. Most refrigerators have just a single thermometer adjustment, so the only way to know is to put a thermometer inside.

About Foodborne Illness

Know the Symptoms. Consuming contaminated foodborne bacteria will usually cause illness within 1 to 3 days of eating the contaminated food. However, illness can also occur within 20 minutes to up to 6 weeks later. Although most people will recover from a foodborne illness within a short period of time, some can develop chronic illness, or even life-threatening health problems. Foodborne illness can sometimes be confused with other illnesses that have similar symptoms. The symptoms of foodborne illness can include:

- Vomiting, diarrhea, and abdominal pain
- Flu-like symptoms, such as fever, headache, and body aches

Take Action: If you think that you or a family member has a foodborne illness, contact your healthcare provider immediately. Also, report the suspected foodborne illness to FDA or other of these ways:


- Contact the Consumer Complaint Coordinator in your area. Locate a coordinator here: <http://www.fda.gov/Safety/ReportProblem/ConsumerComplaintCoordinator>
- Contact MedWatch, FDA's Safety Information and Adverse Event Reporting Program. By Phone: 1-800-FDA-1088
- Online: file a voluntary report at <http://www.fda.gov/medwatch>

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For more information, contact the U.S. Food and Drug Administration, Center for Food Safety and Applied Nutrition's Food and Cosmetics Information Center at 1-888-SAFEFood (toll free, Monday through Friday 10 AM to 4 PM ET) or group therapy 202-205-2371 or 1-800-761-7171 and TDD: 202-205-2371, or visit the FDA website at <http://www.fda.gov/food-safety>

<https://www.fda.gov/media/72308/download>

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Who has a higher risk of getting *Listeria* food poisoning?

Lessons from *Listeria* outbreaks: Food poisoning can happen to anyone. Each year, about 48 million people in the US (1 in 6) get sick from eating contaminated food. It can be especially dangerous for pregnant women and their newborns, older adults, and people with immune systems weakened by cancer, cancer treatments, or other serious conditions (like diabetes, kidney failure, liver disease, and HIV/AIDS). *Listeria* is a prime example of how germs that contaminate food can cause sickness and death in these groups.

<p>Pregnant women, fetuses, and newborn infants</p> <p><i>Listeria</i> can pass from pregnant women to their fetuses and newborns. It can cause miscarriages, stillbirths, and newborn deaths.</p> <p>Chancy cheese <i>LISTERIA</i> OUTBREAK: Quark cheese (a type of soft cheese) caused 142 people, killed 10 newborns and 18 adults, and caused 20 miscarriages.</p>	<p>People with weakened immune systems</p> <p><i>Listeria</i> can spread through the bloodstream to cause meningitis, and often kills. The weaker your immune system, the greater the risk.</p> <p>Contaminated celery <i>LISTERIA</i> OUTBREAK: Fresh celery in chicken salad served at hospitals infected 13 people who had other serious health problems. Five of them died as a result.</p>
<p>Adults 65 or older</p> <p><i>Listeria</i> can spread through the bloodstream to cause meningitis, and often kills. The older you are, the greater the risk.</p> <p>Tainted cantaloupes <i>LISTERIA</i> OUTBREAK: Contaminated whole cantaloupes infected 147 people in 28 states and caused one of the deadliest foodborne outbreaks in the US. There were 23 deaths, mostly in adults over 65, reported during the outbreak.</p> <p><small>SOURCE: CDC, 2013</small></p>	<p>What foods are risky?</p> <p>When it comes to <i>Listeria</i>, some foods are more risky than others. Meet some of the other foods where <i>Listeria</i> is known to hide:</p> <ul style="list-style-type: none"> Raw Sprouts Raw Milk (unpasteurized) Soft Cheeses Deli Meats and Hot Dogs (cold, not heated) Smoked Seafood

<https://www.cdc.gov/vitalsigns/listeria/infographic.html>

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Guidance for the Control of *Listeria monocytogenes* Risks in Retail Food Stores

EMI
 FOOD MARKETING INSTITUTE

<https://www.fmi.org/docs/food-safety/listeria-guidance.pdf?sfvrsn=4>

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FDA U.S. FOOD & DRUG ADMINISTRATION

STEP 1: CLEAN

FOOD SAFETY QUICK TIPS

Lather up
Before eating, wash your hands with soap and running water for at least 20 seconds. Count to 20 slowly or sing the "Happy Birthday" song to yourself twice.

Eat clean
Rinse fruits and veggies under running water. Slicing or dicing? Scrub 'em anyway—germs can jump from rinds to the insides during cutting and peeling.

Rules for tools
Wash cutting boards, knives, and other cooking utensils in hot, soapy water or the dishwasher after each use.

Create a safe cooking space
Wash countertops, cooking surfaces, and insides of the refrigerator, freezer, and microwave frequently with hot, soapy water.

Clean it before you crack it open
Wash food packaging, especially lids of cans and jars, before opening.

Find more Quick Tips on the 4 Steps to Food Safety: Clean, Separate, Cook, Chill at: www.fda.gov/food

EVERYDAY FOOD SAFETY
July 2018

<https://www.fda.gov/media/115444/download>

Five keys to safer food

Keep clean
Why? Wash your hands before and after handling food, and after using food preparation surfaces and utensils. Wash your hands for at least 20 seconds. Use soap and water. If you don't have access to soap and water, use hand sanitizer. Why?

Separate raw and cooked
Why? Prevent cross-contamination between raw and cooked foods. Why?

Cook thoroughly
Why? Cook food to the right temperature, cook for long enough, and use a food thermometer. Why?

Keep food at safe temperatures
Why? Don't leave food at room temperature for more than 2 hours. Why?

Use safe water and raw materials
Why? Use safe water to make food. Why?

Knowledge = Prevention

https://www.who.int/foodsafety/publications/consumer/en/5keys_en.pdf?ua=1

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Keep Commercial Deli Slicers Safe

Did You Know...?
Deli slicers commonly used in retail and foodservice establishments to slice meats, cheeses and produce may become difficult and dangerous to properly clean and sanitize after a period of use. Failure to adequately clean and sanitize all surfaces of a deli slicer can contaminate food and cause illnesses or death.

- Recent outbreaks of listeriosis have been associated with the buildup of food soils and disease-causing microorganisms on areas of deli slicers that are difficult to clean and sanitize.
- Outbreaks of salmonellosis and hospitalizations have resulted.
- Many seams between the connected parts and components of a typical deli slicer are loaded with products and gaskets.

These seams can become worn, degraded or misaligned as a result of the heavy use and cleaning process that deli slicers undergo. As these seams and gaskets become degraded, spaces can be created that can trap debris and moisture, which can lead to areas that may not be able to be effectively cleaned and sanitized under normal cleaning conditions.

Deli Slicer Problem Areas That Are Hard To Clean

ARROWS POINT TO KEY AREAS OF CONCERN
Carefully monitor these areas for any cracks, breaks, missing or misplaced parts.

What YOU Can Do

CLEAN and SANITIZE deli slicers per manufacturer's instructions at least once every four hours in order to prevent the growth of disease-causing bacteria.

- Keep the instructions posted near the slicer location and follow them closely.
- Simply wiping down a slicer to remove visible debris is not a substitute for thoroughly cleaning and sanitizing the equipment.
- Routinely examine the condition of seams, seals and gaskets to confirm integrity of these seals while the slicer is assembled.
- Look in hard-to-reach areas for food and liquid accumulations.

If a seal or gasket is broken, missing, misplaced, defective or otherwise not performing its function, remove the slicer from service immediately and contact the slicer manufacturer for repair or replacement.

- All repairs should be performed by the manufacturer's authorized service representative or using repair kits available from or provided by the original manufacturer.
- Have the slicer professionally serviced according to the manufacturer's recommended schedule.
- Ensure that the servicing includes maintenance of all seams and the routine replacement of seals and gaskets.
- Proper servicing may require that components be removed and then reattached with the proper reapplication of seals or gaskets.

For additional copies and more information visit: www.fda.gov/food/safetytools

<https://www.fda.gov/media/79825/download>

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Commercial Deli Slicer Inspection Tips for Food Safety Professionals

If you are inspecting the facility as part of a foodborne illness outbreak investigation:

- If a slicer is suspected as a source of contamination, breaking down slicers (including the disassembly of components attached with fasteners) may be necessary to examine if any seal or seam degradation has occurred that may result in contamination of food.
- If collecting environmental samples, be sure to swab surfaces and niches on the slicer where cross contamination hazards may have been created, such as seals and seams in or near the food contact zones.

Examples of commercial deli slicer components inaccessible under normal cleaning conditions



Figure 1. Food soil accumulation at the ring guard mount.

Figure 2. Food soil accumulation on the inside of the blade guard at the white plastic piece.



Figure 3. Surfaces under the slicer handle can accumulate food soil and debris and require monitoring to prevent buildup.



Additional copies and more information visit:
[gov/retailfoodprotection](https://www.fda.gov/retailfoodprotection)



<https://www.fda.gov/media/79844/download>

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Commercial Deli Slicer Inspection Tips for Food Safety Professionals

- Mechanical deli slicers commonly used in retail and foodservice establishments to slice meats, cheeses and produce may become difficult or impossible to adequately clean and sanitize after a period of use.
- Recent foodborne illness outbreaks have been associated with the accumulation of food soils and disease-causing microorganisms on areas of commercial deli slicers that are difficult to clean and sanitize.
- These outbreaks have resulted in serious illnesses and hospitalizations.

There are many seams created between the numerous adjoining parts and components of a typical deli slicer. Sealants and gaskets are often used to seal these seams. These seams can become worn, degraded or removed as a result of the heavy use and cleaning regimens to which deli slicers are subjected. As these seals and gaskets become degraded, spaces can be created that can trap debris and moisture, which can lead to areas that may not be adequately cleaned and sanitized under normal cleaning methods.



During routine inspections of retail and foodservice establishments:

- Pay special attention to commercial deli slicers.
- Examine the equipment for degraded, defective or worn parts.
- If there are any signs of cracks, chips, deep scratches or loss of adhesion or if any seam or part is found defective or damaged, have the food establishment remove the slicer from service until repaired or replaced.
- Stress that establishment managers need to contact the slicer manufacturer for repairs and maintenance; all repairs should be performed by the manufacturer's authorized service representatives.
- Check that the retail or foodservice establishments are following the manufacturer's instructions for cleaning and maintenance.

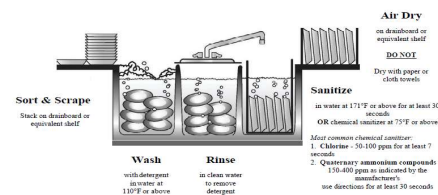


NSF/ANSI Standard 8, Commercial Powered Food Preparation Equipment

Most slicers used in food establishments are models that have been certified to the NSF/ANSI (American National Standards Institute) Standard 8, Commercial Powered Food Preparation Equipment by an ANSI accredited certification body. However, these certifications are issued for newly manufactured products only, and do not ensure that the slicer will be maintained in a cleanable condition after extended use. Once in the field, slicer seal and gasket life will be affected by a variety of factors such as conditions of use, type and frequency of cleaning protocols, and types of foods being sliced. Since slicers typically remain in use for a number of years, operators and regulators must be diligent in their inspection, evaluation and maintenance of this equipment.



Florida Department of Agriculture and Consumer Services Division of Food Safety DISHWASHING PROCEDURES - MANUAL



Rev: 3/15

Division of Food Safety
850-645-3520

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https://waterandhealth.org/wp-content/uploads/2019/12/Kitchen-Clean-up-Surfacesstamp_Letter_COLOR.pdf

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Food Code Section 3-501.17 Ready-to-Eat, Time/Temperature Control for Safety Food, Date Marking

FDA U.S. FOOD & DRUG
ADMINISTRATION

Section 3-501.17 specifies ready-to-eat, time/temperature control for safety (TCS) food prepared in a food establishment and held longer than a 24-hour period shall be marked to indicate the date or day by which the food is to be consumed on the premises, sold, or discarded when held at a temperature of 5°C (41°F) or less for a maximum of 7 days. These time/temperature parameters are intended to help control for growth of *Listeria monocytogenes*.

The FDA Food Code does not specify a particular date marking label, nor does it specify that the time the food was prepared be captured on the label. However, section 3-501.17 provides parameters to work within and allows for flexibility in creating a system that works for each food establishment. An establishment can choose to be as precise as needed in date marking as long as the parameters set forth within section 3-501.17 are met. A date marking system may use calendar dates, days of the week, color-coded marks, or other effective means in order to comply with section 3-501.17. Examples of the date or day by which the food should be consumed, sold, or discarded based on the type of date marking system used can be found below.

	Sunday March 26	Monday March 27	Tuesday March 27	Wednesday March 28	Thursday March 29	Friday March 30	Saturday March 31	Sunday April 1
Date Only								
Food is labeled:	March 31	Day 2	Day 3	Day 4	Day 5	Day 6	Discard by midnight on Saturday, March 31	
Day Only								
Food is labeled:	Saturday	Day 2	Day 3	Day 4	Day 5	Day 6	Discard by midnight on Saturday	Day 7
Date and Time								
Food is labeled:	April 1, 2018 10:00 pm	Day 2	Day 3	Day 4	Day 5	Day 6	Discard by 11pm on Sunday, April 1, 2018	Day 7



<https://www.fda.gov/media/127796/download>

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<https://www.cdc.gov/handwashing/pdf/wash-your-hands-poster-english-508.pdf>

WASH YOUR HANDS TO PREVENT ILLNESS



Lávete las Manos

洗您的手

당신의 손을 씻으십시오

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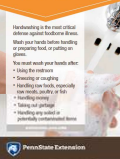
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вымойте ваши руки

DWCLA-1008 Rev. 03/15

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WASH HANDS



<https://extension.psu.edu/food-safety-poster-wash-hands>



<https://www.cdc.gov/handwashing/pdf/wash-your-hands-steps-8x11.pdf>

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Would you want these people in your kitchen?

Diarrhea

Sore Throat with Fever

Then why would you want them in your kitchen?

Protect People Everywhere. Stay Home When You Are Sick.

A Foodborne Illness Outbreak That Could Have Been Prevented

My baby Maxine had fever and diarrhea and I was up all night caring for him. The next morning I was scheduled to work.

Mary was enjoying lunch with her Dad.

Mary, who had a weak immune system, became very sick.

Protect People Everywhere. Don't touch ready-to-eat food.

One Wrong Step Can Make Food Deadly

Don't Let What Happened to Me, Happen to You

My name is David. One day, while at work, I started feeling sick and ran for the bathroom.

I felt sick in the middle of the night, but I had to go to work the next day.

I should have stayed home, but I felt better. I didn't know the germs from my sickness were on my hands.

At work, I picked up the chips with my bare hands.

There was a family celebrating their son's 4th birthday. His name was Jose Antonio.

My Name Is Mariela and My Story Could Change Your Life

I felt sick in the middle of the night, but I had to go to work the next day.

I should have stayed home, but I felt better. I didn't know the germs from my sickness were on my hands.

At work, I picked up the chips with my bare hands.

There was a family celebrating their son's 4th birthday. His name was Jose Antonio.

Jose Antonio loved the chips I served him. I went home as soon as I could because I felt sick again. I was sick for two more days.

I could have prevented this from happening.

While I was at home sick, reports started coming into the health department from all over. In all, over 20 people got sick from eating at our restaurant. They determined that I served all of the people that were sick.


If I could do it over again, I would have never gone to work that day. Having a child report, I can't get better. Jose Antonio out of my mind, his father because of me.

Protect People Everywhere. Stay home if you are sick.



<https://epublication.fda.gov/epub/ePubHome.xhtml?faces-redirect=true>

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Apply the Heat Chart

Recommended Safe Cooking Temperatures

Minimum Internal Temperature for Safety

165°F Poultry (whole, stuffed, ground, or minced)

160°F Ground Meats: Beef, Pork, Lamb, and Veal

155°F Beef, Pork, Lamb, and Veal (steaks, roasts, chops, and steaks)

145°F Fish, Seafood, Poultry, and Pork

140°F Eggs (whole, hard-boiled)

135°F Fruits, Vegetables, Grains for hot holding

130°F Cold Foods

125°F Cold Foods

120°F Cold Foods

115°F Cold Foods

110°F Cold Foods

105°F Cold Foods

100°F Cold Foods

95°F Cold Foods

90°F Cold Foods

85°F Cold Foods

80°F Cold Foods

75°F Cold Foods

70°F Cold Foods

65°F Cold Foods

60°F Cold Foods

55°F Cold Foods

50°F Cold Foods

45°F Cold Foods

40°F Cold Foods

35°F Cold Foods

30°F Cold Foods

25°F Cold Foods

20°F Cold Foods

15°F Cold Foods

10°F Cold Foods

5°F Cold Foods

0°F Cold Foods

Danger Zone

140°F to 165°F

135°F to 160°F

130°F to 155°F

125°F to 150°F

120°F to 145°F

115°F to 140°F

110°F to 135°F

105°F to 130°F

100°F to 125°F

95°F to 120°F

90°F to 115°F

85°F to 110°F

80°F to 105°F

75°F to 100°F

70°F to 95°F

65°F to 90°F

60°F to 85°F

55°F to 80°F

50°F to 75°F

45°F to 70°F

40°F to 65°F

35°F to 60°F

30°F to 55°F

25°F to 50°F

20°F to 45°F

15°F to 40°F

10°F to 35°F

5°F to 30°F

0°F to 25°F

Danger Zone

140°F to 165°F

135°F to 160°F

130°F to 155°F

125°F to 150°F

120°F to 145°F

115°F to 140°F

110°F to 135°F

105°F to 130°F

100°F to 125°F

95°F to 120°F

90°F to 115°F

85°F to 110°F

80°F to 105°F

75°F to 100°F

70°F to 95°F

65°F to 90°F

60°F to 85°F

55°F to 80°F

50°F to 75°F

45°F to 70°F

40°F to 65°F

35°F to 60°F

30°F to 55°F

25°F to 50°F

20°F to 45°F

15°F to 40°F

10°F to 35°F

5°F to 30°F

0°F to 25°F

Danger Zone

140°F to 165°F

135°F to 160°F

130°F to 155°F

125°F to 150°F

120°F to 145°F

115°F to 140°F

110°F to 135°F

105°F to 130°F

100°F to 125°F

95°F to 120°F

90°F to 115°F

85°F to 110°F

80°F to 105°F

75°F to 100°F

70°F to 95°F

65°F to 90°F

60°F to 85°F

55°F to 80°F

50°F to 75°F

45°F to 70°F

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65°F to 90°F

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65°F to 90°F

60°F to 85°F

55°F to 80°F

50°F to 75°F

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90

Florida Department of Agriculture and Consumer Services

- <https://www.cdc.gov/listeria/index.html>
- <https://www.fda.gov/animal-veterinary/animal-health-literacy/get-facts-about-listeria>
- <https://www.fda.gov/files/food/published/Draft-Guidance-for-Industry--Control-of-Listeria-monocytogenes-in-Ready-To-Eat-Foods-%28PDF%29.pdf>
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- <https://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/compliance-guides-index/controlling-lm-retail-delicatessens>
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Florida Department of Agriculture and Consumer Services



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