



United States Department of Agriculture
Food Safety and Inspection Service

Food Safety Information



Yersiniosis and Chitterlings: Tips to Protect You and Those You Care for from Foodborne Illness

Chitterlings are a popular food served in many parts of the United States, the Caribbean, Latin America, western Asia, and Europe. Also called "chitlins," they are the large intestines usually of swine (hogs) but can also be from young bovine animals such as calf or veal. Some people consider them a delicacy; for others who grew up eating them, they are a comfort food. Eaten all year long, chitterlings are especially popular during the Thanksgiving, Christmas, and New Year's holidays.

The name "chitterlings" comes from Middle Old English or Middle High German. Caribbean and Latin America people use them in traditional dishes such as "Mondongo," and the French call them *les tricandilles*. They are also used as casings for sausages.

Chitterlings (more commonly called "chitlins") became a traditional winter food of the American Deep South during Colonial times when, before refrigeration, hogs were slaughtered in December. Those not living "high on the hog" were given the less desirable parts of the animal. Chitterlings have a pungent odor while being boiled. Their texture is similar to *calamari* (squid). After lengthy boiling, chitlins sometimes are battered and fried and commonly are served with cider vinegar and hot sauce as condiments.

Whatever way you cook them, chitlins must be handled and prepared with caution lest they cause foodborne illness. Preparation is a labor-intensive process that lends itself to the cross-contamination of kitchen countertops, cutting boards, and utensils. Chitterlings can be contaminated with the bacteria *Yersinia enterocolitica*, which can cause a diarrheal illness called "yersiniosis." Other foodborne pathogens —

such as *Salmonella* and *E. coli* — can also be present, so it is important to follow safe food handling practices to prevent infection.

Q. What is *Yersinia enterocolitica*?

A. *Yersinia enterocolitica* is a bacterium found in the intestine of hogs that can cause diarrheal illness in humans. Infections caused by these bacteria are called yersiniosis. Swine and meat products from swine are the primary source of illness from *Yersinia* in humans.

Q. What are the symptoms of yersiniosis?

A. Symptoms can include watery diarrhea, abdominal pain, headache, fever and vomiting. Young children, older adults, pregnant women, and people with a weakened immune system are more at risk and may experience a more severe illness. Abdominal pain may be confused with appendicitis. Illness in immune-compromised individuals can lead to arthritis, meningitis, and inflammation of the skin (*erythema nodosum*).

The Food Safety and Inspection Service (FSIS) is the public health agency in the U.S. Department of Agriculture responsible for ensuring that the nation's commercial supply of meat, poultry, and egg products is safe, wholesome, and correctly labeled and packaged.

USDA Meat & Poultry Hotline
1-888-MPHotline
(1-888-674-6854)

Q. How do people get yersiniosis from chitterlings?

A. People can get yersiniosis from consuming raw or undercooked pork, or from the cross-contamination of food contact surfaces, such as countertops, cutting boards, and utensils. Infants can get yersiniosis if their family members or caretakers handle raw meat or hog intestines and do not adequately wash their hands before handling the infant or the infant's toys, bottles, or pacifiers. Cross-contamination can occur if family members or caretakers preparing chitterlings are also caring for infants and small children at the same time. It is very important that safe food handling practices are followed during the preparation of chitterlings in order to protect you and those you care for from illness.

Q. How can consumers prevent getting yersiniosis from chitterlings?

A. Tips for safely preparing chitterlings:

- Thaw chitterlings in the refrigerator. Wrap the container of raw chitterlings in plastic wrap before placing it in the refrigerator.
- Buy pre-cooked chitterlings. But if you prefer using raw ones, pre-boil them for 5 minutes before cleaning and cooking. Studies conducted by the Georgia Department of Human Resources Division of Public Health found that including this step in the preparation of chitterlings kills pathogenic bacteria without changing the flavor.
- Thoroughly wash hands with soap and warm water for a full 20 seconds before and after the preparation of chitterlings.
- Wash utensils, cutting boards, dishes, and countertops with hot soapy water after preparing each food item and before you go on to the next item. Countertops, equipment, utensils, and cutting boards can be sanitized with a freshly prepared solution of 1 tablespoon of unscented, liquid chlorine bleach in 1 gallon of water. Flood the surface with the bleach solution and allow it to stand for several minutes. Rinse with clear water and air dry or pat dry with clean paper towels.

- During preparation of chitterlings, caregivers should find others to assist with care of infants and small children to prevent cross-contamination and infections.
- Keep children out of the kitchen when chitterlings are being prepared.
- Boil and simmer chitterlings until well cooked and tender.

Q. What should I do if I think I have, or someone in my family has, yersiniosis?

A. Call your doctor, nurse, or health clinic if you suspect you may have a foodborne illness.

To protect yourself and those you care for from foodborne illness, always follow these guidelines for safe food preparation¹

CLEAN: Wash Hands and Surfaces Often

Bacteria can spread throughout the kitchen and get onto cutting boards, utensils, and countertops.

- Wash your hands for 20 seconds with warm soapy water before handling food and after using the bathroom, changing diapers, and handling pets.
- Wash utensils, cutting boards, dishes, and countertops with hot soapy water after preparing each food item and before you go on to the next item.
- Consider using paper towels to clean kitchen surfaces. If you use cloth towels, wash them often in the hot cycle of your washing machine.

SEPARATE: Don't Cross-contaminate

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

COOK: Cook to Safe Temperatures

Use a clean food thermometer when measuring the internal temperature of meat, poultry, casseroles, and other foods to make sure they have reached a safe minimum internal temperature.

- Cook food to a safe minimum internal temperature. Use a food thermometer to check the internal temperature.
- When cooking food in a conventional oven, set the oven temperature to at least 325 °F.
- Boil chitterlings in water for 5 minutes BEFORE cleaning; then proceed with preferable cooking method until chitterlings are completely cooked and tender.

CHILL: Refrigerate Promptly

Refrigerate foods quickly because cold temperatures keep harmful bacteria from multiplying.

- Refrigerate or freeze perishables, prepared foods, and leftovers within 2 hours (1 hour if the temperature is above 90 °F).

- Set your refrigerator at 40 °F or below and the freezer at 0 °F or below. Check these temperatures occasionally with an appliance thermometer.
- Don't over pack the refrigerator. Cold air must circulate to keep food safe.
- Thaw chitterlings in the refrigerator and never thaw at room temperature. Divide large amounts of leftovers into shallow containers for quick cooling in the refrigerator.
- Refrigerate and use raw chitterlings within 2 days after thawing. Use frozen chitterlings within 3 to 4 months for best quality. Cooked chitterlings can stay for 3 to 4 days in the refrigerator; 3 to 4 months in the freezer

For more information about yersiniosis, visit:
www.cdc.gov/ncidod/dbmd/diseaseinfo/yersinia_g.htm

Food Safety Questions?

Call the USDA Meat & Poultry Hotline

If you have a question about meat, poultry, or egg products, call the USDA Meat and Poultry Hotline toll free at **1-888-MPHotline (1-888-674-6854)**. The hotline is open year-round



Monday through Friday from 10 a.m. to 4 p.m. ET (English or Spanish). Recorded food safety messages are available 24 hours a day. Check out the FSIS Web site at

www.fsis.usda.gov.

Send E-mail questions to MPHotline.fsis@usda.gov.

Ask Karen!

FSIS' automated response system can provide food safety information 24/7 and a live chat during Hotline hours.



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