

Food Safety at Tailgating¹

Soohyoun Ahn, Amarat H. Simonne, and Keith R. Schneider²

Summer is almost over and the weather is getting cooler. This means that tailgating season is here. Tailgating is an American tradition where food is cooked and served on and around the open tailgate of a vehicle. This is a social event that usually occurs in the parking lot of a sporting event. While tailgating can be a great fun for family and friends, you need to make plans and take on-site precautions to keep your food safe during these events. Since refrigerators and running water are not always available for the events, you should familiarize yourself with the safe food handling practices for these outdoor events and plan ahead so you will be prepared with enough coolers/ice and all the tools you need to keep and cook your food safely. This factsheet provides information on safe food practices for tailgating and other outdoor sporting events.



Credits: iStock/Thinkstock.com

How Should I Pack Foods Safely for Tailgating and Sport Events?

To ensure the food safety of the meal you are preparing, foods should be kept at appropriate temperatures the entire time (cold food at 40°F or below and hot food at 140°F or above). Make sure you have enough insulated coolers and ice to hold all of your perishable food and beverages at the proper temperature during the event. These coolers should be cleaned first by removing any standing water or food residues and sanitized by wiping inside with disinfecting wipes. Then the coolers should be packed with ice or frozen gel packs to keep food cold, especially on hot days. A plug-in car cooler can also be used to hold foods during the event instead of coolers. Place a thermometer in the cooler so you can check if the temperature of cold food inside the coolers stays at 40°F or below. It is important to remember to keep cold food cold, but do not forget to keep hot food hot. Get a separate insulated container for your hot foods to ensure they stay safe. Food stored in the temperature danger zone, which is between 40 and 140°F, can cause harmful germs (bacteria) to multiply quickly in perishable foods. Here are some packing tips for tailgating:

- Pack raw meat and poultry separate from ready-to-eat foods when you pack the coolers for tailgating. Using separate coolers for raw meat and poultry is ideal, but if this option is not available, wrap all foods securely with multiple plastic bags and, if possible, use the secondary containers inside the cooler to separate raw meat and poultry from ready-to-eat foods. Keep in mind that juices

1. This document is FSHN14-10, one of a series of the Food Science and Human Nutrition Department, UF/IFAS Extension. Original publication date October 2014. Visit the EDIS website at <http://edis.ifas.ufl.edu>.

2. Soohyoun Ahn, assistant professor, Food Science and Human Nutrition Department; Amarat H. Simonne, professor, Department of Family, Youth and Community Sciences; and Keith R. Schneider, professor, Food Science and Human Nutrition Department; UF/IFAS, Gainesville, FL 32611.

The Institute of Food and Agricultural Sciences (IFAS) is an Equal Opportunity Institution authorized to provide research, educational information and other services only to individuals and institutions that function with non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, marital status, national origin, political opinions or affiliations. For more information on obtaining other UF/IFAS Extension publications, contact your county's UF/IFAS Extension office.

U.S. Department of Agriculture, UF/IFAS Extension Service, University of Florida, IFAS, Florida A & M University Cooperative Extension Program, and Boards of County Commissioners Cooperating. Nick T. Place, dean for UF/IFAS Extension.

from raw meat and poultry can cross-contaminate other foods, which can lead to a foodborne illness.

- Pack pre-cooked, perishable food, such as cooked meat and chicken, in a cooler as well. Even though they are pre-cooked, they still need to be kept cold to prevent harmful germs from growing. Most side dishes, including potato salad and pasta salad, also should be packed in the cooler. The rule of thumb here is that if an item you are packing is something you normally find in the refrigerated section in a grocery store, then you should pack it in a cooler.
- If you bring any hot foods, such as soup and chili, use an insulated container to keep them hot. Before putting hot food in the container, pre-warm the container by filling it with boiling water for several minutes before putting hot food. This helps food stay hot longer. When properly prepared, an insulated container should keep food hot (140°F or higher) for several hours. If you have a long trip and cannot keep hot food hot during the drive, chill the food in the refrigerator in advance, pack in a cooler, and reheat at the tailgate event.
- If you bring hot take-out food, eat it within two hours of purchase, or within one hour if the outside temperature is above 90°F (USDA-FSIS 2007; FDA 2014).
- Pack a food thermometer so you can monitor the temperature of meat and poultry during cooking.
- Bring water for hand washing and general cleaning in case there is none available at the tailgating site. Pack clean, wet paper towels or wet wipes for cleaning hands and food contact surfaces. Pack extra utensils—one set for preparing your food and another for serving food, in case washing or cleaning them is not convenient at the tailgating site.
- Try to bring only the amount of food that will be eaten that day to avoid having too many leftovers.

How Should I Cook Foods Safely at Tailgating and Sport Events?

A large percentage of foodborne illnesses are spread by contaminated hands. Thus washing hands with soap and water is the best way to reduce the risk of foodborne illness and other infections. However, at outdoor events such as tailgating, hand washing facilities are not always available. If soap and water are not available, you can use an alcohol-based hand sanitizer that contains at least 60% alcohol. Most commercial sanitizers have this percentage (or close to it), which is very effective in killing harmful microorganisms. Hand sanitizers with lower alcohol concentrations or non-alcohol-based hand sanitizers do not work as well

(Kampf and Kramer 2004; Todd et al. 2010). However, many studies show that hand sanitizers cannot eliminate all types of germs (Charbonneau et al 2000; Grayson et al 2009; Oughton et al. 2009; Liu et al. 2010; Blaney et al. 2011) and they may not work well with very greasy or dirty hands, which are common after handling food or playing sports (Charbonneau et al. 2000; Pickering et al. 2011). Therefore it is recommended that you wash hands with soap and water whenever possible.

When you cook at a tailgating event, it is critical to make sure that food reaches a safe minimum internal temperature to destroy harmful pathogens that may be present in food. Safe minimum internal temperatures for different types of food are shown in Table 1. Keep in mind that the only way to confirm the internal temperature of meat is to use a calibrated food thermometer. Following are cooking tips for tailgating:

- Cook food to a safe minimum internal temperature to destroy harmful pathogens (Table 1). Cook all raw beef, pork, lamb steaks, chops, and roasts to 145°F or higher; all raw ground meats to 160°F or higher; and all poultry to 165°F or higher as measured with a food thermometer. Keep in mind that using a thermometer is the only way to confirm the internal temperature of meat.
- Meat should be either cooked completely at home and then reheated at the event or cooked completely at the tailgate location. Partially cooking meat or poultry ahead of time without reaching to a safe temperature will allow harmful pathogens to survive and grow. When you reheat cooked foods, heat them to 165°F as measured with a food thermometer.
- When taking cooked food off the grill, use a clean platter and utensils. You should not use the platter or utensils that were used for raw meat or poultry to prevent cross-contamination.
- Once cooked, food should be consumed within two hours, or within one hour if the outside temperature is above 90°F.
- Wash your hands with warm water and soap for at least 20 seconds before and after handling food. If water for hand washing is not available, use hand sanitizers (alcohol-based with 60% or higher alcohol concentration) or disposable gloves, which should be changed often.
- After touching raw meat or poultry, do not touch other foods without cleaning your hands. You should wash your hands with water and soap or clean your hands with hand sanitizer (only when water is not available) before

touching other foods. When you use disposable gloves, throw them away after using them with raw meat or poultry.

Table 1. Safe minimum internal temperatures*

All poultry	165°F
Ground meats	160°F
Beef, pork, lamb, and veal steaks, roasts, and chops	145°F**
Leftovers	165°F
Reheating	165°F

*Modified from Tailgating Food Safety Q&A (http://www.fsis.usda.gov/wps/wcm/connect/98a4e643-8c31-4776-83e7-6409b5863ff8/Tailgating_Food_Safety.pdf?MOD=AJPERES)

**As measured with a food thermometer before removing meat from the heat source. For safety and quality, allow meat to rest for at least three minutes before carving or consuming. For reasons of personal preference, consumers may choose to cook meat to higher temperatures.

What Should I Do With Leftovers?

Holding food at an unsafe temperature is one of the main causes of foodborne illnesses. When the tailgate is over, you should make sure that any leftovers are stored properly. Food should not be left out of a cooler or off the grill more than two hours (or one hour when the outside temperature is above 90°F). If you do have leftovers, place perishable items promptly in a cooler. Discard any leftovers that are not properly chilled and any food that was left out of the cooler or off grill more than two hours (one hour when the temperature is above 90°F). When in doubt, throw it out. It is always best to plan ahead and bring the right amount of perishable items to the tailgate so you do not have to waste food or worry about the safety of leftovers.

References

- Blaney, D. D., E. R. Daly, K. B. Kirkland, J. E. Tongre, P. T. Kelso, and E. A. Talbot. 2011. "Use of alcohol-based hand sanitizers as a risk factor for norovirus outbreaks in long-term care facilities in northern New England: December 2006 to March 2007." *Am. J. Infect. Control* 39:296–301.
- Charbonneau, D. L., J. M. Ponte, and B. A. Kochanowski. 2000. "A method of assessing the efficacy of hand sanitizers: use of real soil encountered in the food service industry." *J. Food Prot.* 63:495–501.
- FDA. 2014. "Food Facts—Eating outdoors, handling food safely." <http://www.fda.gov/food/resourcesforyou/Consumers/ucm109899.htm>. Accessed Sep 29, 2014.

Grayson, M. L., S. Melvani, J. Druce, I. G. Barr, S. A. Ballard, P. D. Johnson, T. Mastorakos, and C. Birch. 2009. "Efficacy of soap and water and alcohol-based hand-rub preparations against live H1N1 influenza virus on the hands of human volunteers." *Clin. Infect. Dis.* 48:285–291.

Kampf, G. and A. Kramer. 2004. "Epidemiologic background of hand hygiene and evaluation of the most important agents for scrubs and rubs." *Clin. Microbiol. Rev.* 17:863–893.

Liu, P., Y. Yuen, H. M. Hsiao, L. A. Jaykus, and C. Moe. 2010. "Effectiveness of liquid soap and hand sanitizer against Norwalk virus on contaminated hands." *Appl. Environ. Microbiol.* 76:394–399.

Oughton, M. T., V. G. Loo, N. Dendukuri, S. Fenn and M. D. Libman. 2009. "Hand hygiene with soap and water is superior to alcohol rub and antiseptic wipes for removal of *Clostridium difficile*." *Infect. Control Hosp. Epidemiol.* 30:939–944.

Pickering, A. J., J. Davis, and A. B. Boehm. 2011. "Efficacy of alcohol-based hand sanitizer on hands soiled with dirt and cooking oil." *J. Water Health* 9:429–433.

Todd, E. C., B. S. Michael, J. Holah, D. Smith, J. D. Greig, and C. A. Bartleson. 2010. "Outbreaks where food workers have been implicated in the spread of foodborne disease. Part 10. Alcohol-based antiseptics for hand disinfection and a comparison of their effectiveness with soaps." *J. Food. Prot.* 73:2128–2140.

USDA-FSIS. 2007. "Safe handling of take-out foods." http://www.fsis.usda.gov/wps/wcm/connect/d16db672-6013-43c9-bce8-40c69a23ade5/Safe_Handling_Take-Out_Foods.pdf?MOD=AJPERES. Accessed Sep 29, 2014.

Resources

1. Food Safety and Inspection Service. Tailgating Food Safety Q&A. (http://www.fsis.usda.gov/wps/wcm/connect/98a4e643-8c31-4776-83e7-6409b5863ff8/Tailgating_Food_Safety.pdf?MOD=AJPERES)
2. Show me the science—When to use hand sanitizer. (<http://www.cdc.gov/handwashing/show-me-the-science-hand-sanitizer.html>)
3. USDA Food safety advice for tailgate parties (video). (<http://www.youtube.com/watch?v=HDPpaMCPo1s>)
4. Team up to tackle food safety. (<http://www.foodsafety.gov/blog/tailgate.html>)