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<td>Staph, Salmonella, Perfringens, C. jejuni, C. botulinum</td>
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### Credits

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Particularly in warm weather, if you could just throw the refrigerator under one arm and take it with you, there wouldn't be any problem in caring for food to go.

That's because the best way to fight food poisoning is to keep perishable foods—especially meat and poultry—cold between preparation and serving.

**Why keep food cold?** At warm temperatures—60°F and over—food poisoning bacteria can begin to multiply and cause illness. At summer temperatures of 80°F and above, they multiply very quickly.

While food poisoning usually means uncomfortable intestinal flu-like symptoms, it can be serious—in the young, the old, and people with other illnesses. The rarely-occurring botulism, of course, is always serious.

Food poisoning is a larger problem than you might think too—over 2 million people a year are affected!

Plus, food poisoning bacteria are tough to deal with because you usually don't even know they're present.

They are microscopic in size, and you normally can't see, smell, or taste them. (See chart, page 14.)

So, for food safety, prevention is the watchword. By observing the cold storage, sanitation, and thorough cooking rules in this booklet, you can keep your food safe any time you pack it to go, starting with lunch...
“What Do I Have for Lunch?” A trying question, right? And one you face day after day. Whatever you put together, though, here’s how to pack it safely — whether in a school lunchbox, a plain brown bag, or a leather attaché case.

Packing safe

- Keep everything that touches food clean. Stop and wash your hands before preparing food. And wash utensils, bowls, and countertops — everything that touches food — between work on each dish.
Use a fork—rather than your hands—to mix meat, macaroni, egg, tuna or green salads.

*Why all this emphasis on clean hands?* Your hands continually pick up bacteria and other germs, and these organisms dig in around the fingernails and in the creased skin of the hand. Only vigorous washing with hot, soapy water prepares hands to safely deal with food.

- **Cook food thoroughly.** For complete safety, raw meat, poultry and fish should be thoroughly cooked, following package or cookbook directions.
- **Refrigerate lunch fixed the night before.** Pack your bag with perishables—meat or poultry sandwiches, hardboiled eggs—and refrigerate it. Add chips and cookies (that go limp in the refrigerator) and cold drinks the following morning.

**Keep your lunch COLD**

If possible, **refrigerate your lunch** again at work or school. If not, here are some other “cooling” tips:

- **Put something cold in the lunch bag**—a cold drink, a small, plastic refrigerator dish filled with water and frozen, or one of the new commercial freezing gels. Some lunch bags now come with freeze-pack inserts.
• **Freeze your sandwiches.** This works best with coarse-textured breads that won’t get soggy on thawing. The sandwich thaws in time for lunch, and keeps everything else cool in the meantime. NOTE: Hold the lettuce, tomato and mayonnaise. They don’t freeze well. Pack them to add at lunch time.

• **Use a thermos** to keep milk or juice cold until lunchtime. Or try the new fruit juices in special wax-paper cartons that need no refrigeration.

• **Whatever you do, keep your lunch in the coolest place possible.** Avoid leaving it in direct sun or on a warm radiator.

### Safe take-along foods

**Meats & poultry.** Commercially pre-cooked and ready-to-eat meats, such as corned beef, salami and bologna, are good lunchbox choices because they last well.

Canned meat and poultry, which can be opened and eaten immediately, are a good bet too. Just make sure the can is properly sealed and not rusted, bulging, or badly dented (see botulism warnings, page 14).

**Fruits & Vegetables.** Fresh, firm fruits and vegetables travel well. Washing them before packing helps to remove soil you can see plus bacteria, viruses, and insecticide sprays you can’t see.

### Caring for the carriers

If you use a lunchbox or one of the new laminated totes, wash it out every night to keep bacteria from growing in seams and corners. A weekly wash-out with baking soda should eliminate odors.

If you’re a brown bagger, use only new, clean bags. Don’t re-use bags that have carried groceries. They can pass insects or bacteria from other food to your lunch. And NEVER use a bag that’s wet or stained. It could be very “germy.”

### Got a microwave at work?

Great for warming up leftover cuts, the microwave also heats sliced-meat sandwiches, and makes “meal-in-a-cup” soups.

NOTE: For safety’s sake, keep perishables in the office refrigerator, if you have one, before microwaving at noon.
“C’mon, Let’s Have a Picnic!” When a fine summer afternoon makes everyone “think picnic,” you could find yourself organizing one.

Never fear. Find the picnic hamper and the cooler. Then thumb through these warm weather food care hints before you head to the store.
Picnic shopping

- Buy perishable products last at the store and get them right home to the refrigerator, or into the portable ice-chest or insulated bag you’re taking on the picnic. Never leave perishables in a hot car while you run other errands.

Cold storage of picnic food

- For quick use, perishable products can be kept in the refrigerator for a few days. If the store wrap on meat and poultry is clean and not torn, leave it on. Otherwise, re-wrap products in clean plastic or aluminum wrap. Make sure the refrigerator is cooling food to 40°F or lower.
- For longer storage, freeze food. Wrap items tightly in heavy freezer foil or bags. Make sure your freezer registers 0°F or lower. NOTE: Mayonnaise-based meat, poultry and fish salads don’t freeze well. Nor do tomatoes and lettuce.

Thawing—do it the night before

Contrary to common practice, it’s not safe to thaw meat and poultry on the kitchen counter. Bacteria can multiply dangerously in the outer layers before inner areas are thawed. Instead . . .

- To allow plenty of time for larger cuts to thaw, take meat or poultry out of the freezer and put it on a refrigerator shelf a night or two before you need it. Small cuts will usually thaw in the refrigerator over-night.
- But if the meat is still partially frozen when you’re ready to leave, no problem. Just cook it a bit longer at the picnic.

And cook everything thoroughly. Hamburger patties, pork chops, and ribs should be cooked until all the pink is gone; poultry until there is no red in the joints. Fresh fish should be cooked till it “flakes” with a fork. Steak? If you like your steak rare or medium-rare, just remember that there is a chance that some food poisoning organisms can survive such short cooking times.

Take what you know about kitchen cleanliness out to the grill

- If there’s no water faucet available, use disposable, wet handiwipes to clean your hands before working with food.
- Keep bacteria on raw meat and poultry from spreading. Wash your hands again after working with raw meat or poultry and before handling other food.

And take up cooked meat and poultry with clean utensils onto a fresh plate for serving. Don’t re-use utensils, plates, or bowls you used with the raw product—for either the cooked meat or the other food.
COOL-IT with a cooler

For a relaxed, worry-free picnic, keep your perishable food—ham, potato or macaroni salad, hamburger, hot dogs, lunch meat, cooked beef or chicken, deviled eggs, custard or cream pies—in a cooler.

While all mayonnaise-based salads should be kept on ice, the mayonnaise you buy at the store is not a food poisoning villain. Its high acid content actually slows bacterial growth. But home-made mayonnaise, if made without lemon juice or vinegar, can be risky.

The cooler should be well-insulated and packed with ice, or you can use a freeze-pack insert. Cold drinks in cans help keep other food cool too.

When possible, place the cooler in the shade. Keep the lid on.

Serving young picnickers

Toddlers who don’t chew food well can choke when they try to “swallow things whole.” To minimize this danger, supervise mealtime. Keep the child seated. Cut hotdogs lengthwise in narrow strips before serving. Watch carrot and celery sticks, grapes, apples, cookies, and nuts too. Cut or crumble these foods into pieces too small to block the child’s throat.

Leftovers?

Put perishable foods back in the cooler as soon as you finish eating. Don’t leave them out while you go for a swim or hike.

When possible, put the chest in the passenger area of the car for the trip home. It’s much cooler than the trunk!

If you were gone no more than 4 or 5 hours, and your perishables were on ice except when cooked and served, you should be able to save the leftovers.
“Must Camping Mean Roughing It?” Not necessarily, although
anytime you’re away from the convenience of a kitchen, food care is
going to be a bit more difficult.

“Difficult,” but not impossible. Camping does pose special food safety
problems, but you can plan ahead
to solve them.
What are the problems? Lack of refrigeration ranks first. Even on a short, overnight trip—what this section covers—cooler space will be limited. And you’ll need it for food that must be kept cold—fresh meat and poultry, milk, butter and eggs.

But the trip may involve several meals—supper the first night, plus meals and snacks the following day—so how can you solve the “refrigeration problem?”

Picking your camp food

Don’t take any more ice-requiring foods than you can use early in the trip.

For use later in the trip, you’ll want camp food that doesn’t need ice. This includes canned meat and fish, canned meat and vegetable soups and stews, and such old standbys as peanut butter (for high-protein snacks), and dry and cooked cereals.

Camping stores also have a wide variety of dehydrated foods—dried meat sticks, dried fruit and nut mixes for trail snacks, and even whole dried dinners. For beef stew from a pouch, for instance, you just add boiling water.

Which brings us to water...

Probably the second toughest camping problem is how to cope without reliable tap-water. Using bottled water for drinking or mixing with food is a good solution.
Why? Because stream and river water may contain viruses and bacteria. You must therefore treat it before you use it for drinking or cooking.

You can boil it for 15 minutes or use commercial purification tablets. After boiling, let the water stand for 30 minutes so that mud, twigs and so forth settle to the bottom. Dip out and strain through a clean cloth before using.

Follow package directions carefully when using purification tablets.

**Keeping perishables cold**

In warm weather (80°F or over), you need to be especially careful with the foods in the ice chest.

- **In the car** going to the campsite, put the ice chest in the passenger section. It's much cooler than the trunk!
- **The first night's dinner**—You can enjoy fresh meat and poultry dishes the first night, even in warm weather, if you bring them partially thawed for cooking, or pre-cooked and frozen for re-heating. For example, frozen hamburger patties are good to bring from home.
- **Bacon, lunch meat or hotdogs for the second day?** In cooler outside weather (under 80°F), you can take these things for breakfast and lunch the second day. If there are still chunks of ice in the cooler water when you’re ready to use them, they are still cold enough to be safe.
- **If you catch fish** while camping, remember that fish are highly perishable. After cleaning, wash fish thoroughly. Cook immediately or wrap tightly and keep in the cooler with ice for no longer than 24 hours.
- **Other ways to keep the ice chest cool**—Wrap the cooler in newspapers and put it in a sleeping bag in the shade while you're hiking, fishing, or boating.

**Thoroughly cook meat, poultry, and fish**

To kill any food poisoning bacteria present, meat, poultry, and fish must be thoroughly cooked and served hot. Generally, red meat should be cooked until all the pink is gone, poultry until there is no red in the joints, and fish until flaky. (On the question of rare steak, see page 6.)

For outdoor cooking after dark, check the meat under a bright light. Expert campers warn that everything “looks” done in the dark.

**A clean camp stays healthy**

Camp sanitation isn’t hard, it’s just a matter of remembering what you’d do at home. Wash your hands with soap and see that youngsters do, too, before preparing food. “Wet” handiwipes will work when you’re in a hurry. Remember to wash hands after handling raw meat and poultry, and to use clean plates and utensils for preparing each separate food.
"Take Me Out to the Football Game!" Question: Could food poisoning invade your cool-weather outing?

Let's say it's a football game or a concert—whatever would prompt you to head out to the stadium with a great hot supper to share with friends.

Won't the low outside temperatures eliminate most problems with food poisoning?

Not entirely. Food poisoning is much less of a threat in cooler weather, but bacteria can still grow any time they enjoy the right temperatures—between 60° and 125° F—long enough.

So if the centerpiece of your tailgate supper—a hot chili, stew, chowder, or sausage casserole—cools into the DANGER temperature zone, it could become a target.

How can you prevent it?

**Use the thermos bottle properly**

A clean, well-functioning thermos can keep your hot food at a safe temperature for several hours, but it's up to you to make sure the thermos is working properly.

- **Check the seal** around the stopper to make sure it fits tightly.
  This will keep the food at a safe, high temperature.
• Right before use, rinse the clean thermos with boiling water. Then bring the food to as high a temperature as you can before pouring it in. This will keep the food temperature as high as possible until you’re ready to serve it.

If you can keep your hot food above 140° F, it should stay safe. (At 140° F, liquid is hot to the touch.)

• Try to prepare just enough thermos food to serve your guests without leftovers.

If you do have a tiny bit left, you should probably discard it when you get home.

**Taking a casserole?**

A thoroughly cooked casserole will usually stay safe (and warm) in cool weather if you insulate it well. Try several layers of aluminum wrap, followed by newspapers, and a towel. Put the wrapped casserole in the bottom of a cardboard box, fitting other items around it. Serve as soon as you reach your destination. Again, discard the leftovers at home.
**Reporting Food Illness**

At some point, you or your family could get food poisoning. If the telltale intestinal flu-like symptoms appear (see chart, page 14), what should you do?

**Treating the illness**

- **If you’re only mildly ill**, treat the symptoms like flu. Rest and drink plenty of fluids.
- **If symptoms are severe**, or the victim is quite young, elderly, or suffers from a chronic condition, see a doctor.

**Phoning in a report**

Where a number of people may have been exposed to the suspect food or product — for example, you ate it at a large gathering, a restaurant, a sidewalk stand, a cafeteria, or bought the product at the store or a farmer’s market — you should call your local health department.

**Have this information ready:**

- Your name, address, and daytime phone number.
- A brief explanation of the incident — date, occasion, food involved, symptoms, how many people concerned.
- **If you bought the food at the store**, have the container in hand so you can refer to it.
- Try to remember the name and location of the store.
- Look at the container. It will tell you the producer’s name and address.
- On meat and poultry products, the USDA inspection stamp gives the plant number. On red meat items, you’ll see a number like “EST. 38,” and on poultry products “P-42.” The number identifies the processing plant where the product was made.
- Many products are also coded with a batch number, which frequently tells the day and shift the item was made. This can help investigators trace what may have gone wrong in the product’s preparation, storage, or handling.

**After you report the problem**, wrap the suspect food and mark it “Danger.” Keep it refrigerated out of the reach of children. Health officials may need to examine it.

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13
**Understanding Food Poisoning**

**What is Food Poisoning?** Food poisoning, caused by harmful bacteria, normally produces intestinal flu-like symptoms lasting a few hours to several days. But in cases of botulism, or when food poisoning strikes infants, the ill or the elderly, the situation can be serious.

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<th>Bacteria</th>
<th>How It Attacks</th>
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<td>Staphylococcus aureus (Staph)</td>
<td>Staph spreads from someone handling food. It is found on the skin and in boils, pimples and throat infections. At warm temperatures, staph produces a poison.</td>
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<td><strong>Salmonella</strong></td>
<td>You can get salmonella when infected food—meat, poultry, eggs, fish—is eaten raw or undercooked. Other cases? When cooked food comes in contact with infected raw food, or when an infected person contaminates food.</td>
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<td><strong>Clostridium perfringens</strong></td>
<td>This “buffet germ” grows rapidly in large portions of food that are cooling slowly. It can also grow in chafing dishes which may not keep food sufficiently hot, and even in the refrigerator if food is stored in large portions which do not cool quickly.</td>
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<td><strong>Campylobacter jejuni</strong></td>
<td>You drink untreated water on an outing. Your pet becomes infected and spreads it to the whole family, or you eat raw or undercooked meat, poultry or shellfish.</td>
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<td><strong>Clostridium botulinum</strong></td>
<td>Often occurs in home-canned or any canned goods showing warning signs—clear liquids turned milky, cracked jars, loose lids, swollen or dented cans or lids. Beware of any jar or can that spurts liquid or has an off-odor when opened.</td>
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**Note:** While the chart highlights the preventive measures most important in avoiding each type of bacteria, you should understand that all the rules of prevention should be followed with all food.
Where do these bacteria come from and how can they be stopped?

Food poisoning bacteria, microscopic in size, surround us — in the air, soil, water, in our own digestive tracts and in those of many animals. The only way they can effectively be stopped is by careful attention to food handling rules like those outlined in this booklet.

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<th>Symptoms</th>
<th>Prevention</th>
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| 2-8 hours after eating, you could have vomiting and diarrhea lasting a day or two. | Cooking won't destroy the staph poison, so:  
— Wash hands, utensils before preparing food.  
— Don't leave food out over 2 hours.  
— Susceptible foods are meat, poultry, meat and poultry salads, cheese, egg products, starchy salads (potato, macaroni, pasta and tuna), custards, cream-filled desserts. |
| In 12-36 hours you could have diarrhea, fever and vomiting lasting 2-7 days. | Keep raw food away from cooked food, and:  
— Thoroughly cook meat, poultry, fish.  
— Be especially careful with poultry, pork, roast beef, hamburger.  
— Don't drink unpasteurized milk. |
| In 8-24 hours you could have diarrhea and gas pains, ending usually in less than a day. But older people and ulcer patients can be badly affected. | Keep food hot (over 140° F) or cold (under 40° F), and:  
— Divide bulk cooked foods into smaller portions for serving and cooling.  
— Be careful with poultry, gravy, stews, casserole. |
| In 2-5 days you could have severe (possibly bloody) diarrhea, cramping, fever and headache lasting 2-7 days. | Don't drink untreated water or unpasteurized milk, and:  
— Thoroughly clean hands, utensils and surfaces that touch raw meats.  
— Thoroughly cook meat, poultry and fish. |
| In 12-48 hours your nervous system could be affected. Symptoms? Double vision, droopy eyelids, trouble speaking and swallowing, difficult breathing. Untreated, botulism can be fatal. | Carefully examine home-canned goods before use, and:  
— Don't use any canned goods showing danger signs.  
— If you or a family member has botulism symptoms, get medical help immediately.  
— See page 13 for how to refrigerate suspect food and when to call health authorities. |
Other Questions About Meat & Poultry?

Call USDA’s Meat & Poultry Hotline 800-535-4555*

(Washington, D.C. area residents call 447-3333*)

Staffed by home economists, the hotline operates weekdays from 10 a.m. to 4 p.m., EDT. Our hotline experts can answer your questions on the proper handling of meat and poultry, how to tell if it’s safe to eat, and how to better understand meat and poultry labels.

They can also tell you how to handle problems with meat and poultry products.

To report a faulty product, first refrigerate it—if possible, in the original container. Second, notify the store where you bought it. THEN call the Hotline. They’ll tell you what you should do, and whether health authorities should be notified.

You can also write to:
The Meat and Poultry Hotline
USDA-FSIS, Rm. 1165-S
Washington, D.C. 20250

*These numbers are accessible by Telecommunications Devices for the Deaf.


Publications 1 and 2 are FREE from:
FSIS Publications Office,
Rm. 1165-S,
USDA,
Washington, D. C. 20250

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**Puzzler Answer:**
*Staphylococcus aureus, staph.*

For more detail, see
“Understanding the Food Poisoners,” page 14.
**Name-the-bacteria...**

This microscopic-sized bacteria—it's so tiny you can't see it—can cause big trouble. It can threaten picnickers who aren't careful with food.

How? It lives on your hands and in your nose and throat. In hot weather it grows quickly to produce illness.

Its name in Latin means "golden grapes." This mystery bacteria is ___________ ,
or ________ for short.

*Answer, inside back cover*