

Food Safety



For Transplant Recipients

*A need-to-know guide for
bone marrow and solid organ
transplant recipients*

U.S. Department of Agriculture
Food and Drug Administration

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Food safety is important for everyone—but it’s especially important for you. That’s why the U.S. Department of Agriculture’s Food Safety and Inspection Service and the U.S. Department of Health and Human Services’ Food and Drug Administration have prepared this booklet. It is designed to provide practical guidance on how to reduce your risk of foodborne illness. In addition to this guide, we encourage you to check with your physician or health care provider to identify foods and other products that you should avoid. You have a special need for this important information . . . so read on!



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Check out the handy **Check Your Steps** Clip-out Info Cards between pages 10 and 11 of this booklet!

Foodborne Illness in the United States

When certain disease-causing bacteria, viruses or parasites contaminate food, they can cause foodborne illness. Another word for such a bacteria, virus, or parasite is “pathogen.” Foodborne illness, often called *food poisoning*, is an illness that comes from a food you eat.

- The food supply in the United States is among the safest in the world—but it can still be a source of infection for all persons.
- According to the Centers for Disease Control and Prevention, 48 million persons get sick, 128,000 are hospitalized, and 3,000 die from foodborne infection and illness in the United States each year. Many of these people are children, older adults, or have weakened immune systems and may not be able to fight infection normally.

Since foodborne illness can be serious—or even fatal—it is important for you to know and practice safe food-handling behaviors to help reduce your risk of getting sick from contaminated food.

Food Safety:

It's Especially Important for You

As a transplant recipient, you are probably familiar with the topic of transplant rejection. It's the body's natural reaction or immune system's response to "foreign invasion."

- A properly functioning **immune system will try to reject** or destroy your new solid organ and/or bone marrow transplant—in the same way that your immune system works to clear infection from your body.
- Because of this natural rejection possibility, it's common for transplant recipients to **take medications to keep rejection from happening**. These drugs are called *immunosuppressive medications* because they *suppress* your immune system to keep it from attacking, or rejecting, your transplanted organ or bone marrow. Over the past few decades, substantial progress has been made in the development of these drugs that help prevent you from experiencing a transplant rejection.
- Immunosuppressive medications are important, as they can protect your transplanted solid organ and/or bone marrow. But a side effect of these immunosuppressants is that they leave you more susceptible to developing infections—like those that can be brought on by disease-causing bacteria and other pathogens that cause foodborne illness.
- Because you are a transplant recipient, you are more likely to have a lengthier illness, undergo hospitalization, or even die, should you contract a foodborne illness.
- To avoid contracting a foodborne illness, you must be especially vigilant when handling, preparing, and consuming foods.



*Make safe food handling a lifelong commitment
to minimize your risk of foodborne illness.
Be aware that as you age, your immunity
to infection naturally is weakened.*

Major Pathogens That Cause Foodborne Illness

Campylobacter

Associated Foods

- Untreated or contaminated water
- Unpasteurized (“raw”) milk
- Raw or undercooked meat, poultry, or shellfish

Symptoms and Potential Impact

- Fever, headache, and muscle pain followed by diarrhea (sometimes bloody), abdominal pain, and nausea. Symptoms appear 2 to 5 days after eating and may last 2 to 10 days. May spread to the bloodstream and cause a life-threatening infection.

Cryptosporidium

Associated Foods/Sources

- Swallowing contaminated water, including that from recreational sources, (e.g., a swimming pool or lake)
- Eating uncooked or contaminated food
- Placing a contaminated object in the mouth
- Soil, food, water, and contaminated surfaces

Symptoms and Potential Impact

- Watery diarrhea, dehydration, weight loss, stomach cramps or pain, fever, nausea, and vomiting; respiratory symptoms may also be present.
- Symptoms begin 7 to 10 days after becoming infected, and may last 2 to 14 days. In those with a weakened immune system, including bone marrow and solid organ transplant recipients, symptoms may subside and return over weeks to months.

Clostridium perfringens

Associated Foods/Sources

- Many outbreaks result from food left for long periods in steam tables or at room temperature and time and/or temperature abused foods.
- Meats, meat products, poultry, poultry products, and gravy

Symptoms and Potential Impact

- Onset of watery diarrhea and abdominal cramps within about 16 hours. The illness usually begins suddenly and lasts for 12 to 24 hours. In the elderly, symptoms may last 1 to 2 weeks.
- Complications and/or death occur only very rarely.

Listeria monocytogenes

Can grow slowly at refrigerator temperatures

Associated Foods

- Improperly reheated hot dogs, luncheon meats, cold cuts, fermented or dry sausage, and other deli-style meat and poultry
- Unpasteurized (raw) milk and soft cheeses made with unpasteurized (raw) milk
- Smoked seafood and salads made in the store such as ham salad, chicken salad, or seafood salads
- Raw vegetables

Symptoms and Potential Impact

- Fever, chills, headache, backache, sometimes upset stomach, abdominal pain, and diarrhea. May take up to 2 months to become ill.
- Gastrointestinal symptoms may appear within a few hours or 2 to 3 days, and disease may appear 2 to 6 weeks after ingestion. The duration is variable.
- Those at-risk (including bone marrow and solid organ transplant recipients and others with weakened immune systems) may later develop more serious illness; death can result from this bacteria.
- Can cause problems with pregnancy, including miscarriage, fetal death, or severe illness or death in newborns.

Escherichia coli O157:H7

One of several strains of *E. coli* that can cause human illness

Associated Foods

- Undercooked beef, especially hamburger
- Unpasteurized milk and juices, like “fresh” apple cider
- Contaminated raw fruits and vegetables, and water
- Person-to-person contact

Symptoms and Potential Impact

- Severe diarrhea that is often bloody, abdominal cramps, and vomiting. Usually little or no fever.
- Can begin 1 to 9 days after contaminated food is eaten and lasts about 2 to 9 days.
- Some, especially the very young, may develop hemolytic-uremic syndrome (HUS), which can cause acute kidney failure, and can lead to permanent kidney damage or even death.

Noroviruses (and other caliciviruses)

Associated Foods

- Shellfish and fecally-contaminated foods or water
- Ready-to-eat foods touched by infected food workers; for example, salads, sandwiches, ice, cookies, fruit

Symptoms and Potential Impact

- Nausea, vomiting, and stomach pain usually start between 24 and 48 hours, but cases can occur within 12 hours of exposure. Symptoms usually last 12 to 60 hours.
- Diarrhea is more prevalent in adults and vomiting is more prevalent in children.

Salmonella (over 2,300 types)

Associated Foods

- Raw or undercooked eggs, poultry, and meat
- Unpasteurized (raw) milk or juice
- Cheese and seafood
- Fresh fruits and vegetables

Symptoms and Potential Impact

- Stomach pain, diarrhea (can be bloody), nausea, chills, fever, and/or headache usually appear 6 to 72 hours after eating; may last 4 to 7 days.
- In people with a weakened immune system, such as bone marrow and solid organ transplant recipients the infection may be more severe and lead to serious complications including death.

Toxoplasma gondii

Associated Foods/Sources

- Accidental contact of cat feces through touching hands to mouth after gardening, handling cats, cleaning cat’s litter box, or touching anything that has come in contact with cat feces.
- Raw or undercooked meat.

Symptoms and Potential Impact

- Flu-like illness that usually appears 10 to 13 days after eating, may last months. Those with a weakened immune system, including bone marrow and solid organ transplant recipients, may develop more serious illness.
- Can cause problems with pregnancy, including miscarriage and birth defects.

Vibrio vulnificus

Associated Foods

- Undercooked or raw seafood (fish or shellfish)

Symptoms and Potential Impact

- Diarrhea, stomach pain, and vomiting may appear within 4 hours and to several days and last 2 to 8 days. May result in a blood infection. May result in death for those with a weakened immune system, including people with bone marrow and solid organ transplants, cancer or liver disease.

Eating at Home:

Making Wise Food Choices

Some foods are more risky for you than others. In general, the foods that are most likely to contain harmful bacteria or viruses fall into two categories:

- **Uncooked** fresh fruits and vegetables
- **Some animal products**, such as unpasteurized (raw) milk; soft cheeses made with raw milk; and raw or undercooked eggs, raw meat, raw poultry, raw fish, raw shellfish and their juices; luncheon meats and deli-type salads (without added preservatives) prepared on site in a deli-type establishment.

Interestingly, the risk these foods may actually pose depends on the *origin or source of the food* and *how the food is processed, stored, and prepared*. Follow these guidelines (see chart at right) for safe selection and preparation of your favorite foods.

If You Have Questions . . .

. . . about Wise Food Choices:

Be sure to consult with your doctor or health care provider. He or she can answer any specific questions or help you in your choices.

. . . about Particular Foods:

If you are not sure about the safety of a food in your refrigerator, don't take the risk.

When in doubt, throw it out!

Wise choices in your food selections are important.

All consumers need to follow the Four Basic Steps to Food Safety:

Clean, Separate, Cook, and Chill.

KEEP YOUR FAMILY SAFER FROM FOOD POISONING



Check your steps at FoodSafety.gov

Common Foods: Select the Lower Risk Options

Type of Food	Higher Risk	Lower Risk
Meat and Poultry	<ul style="list-style-type: none"> Raw or undercooked meat or poultry 	<ul style="list-style-type: none"> Meat or poultry cooked to a safe minimum internal temperature (see chart on p. 10)
<p><i>Tip: Use a food thermometer to check the internal temperature on the “Is It Done Yet?” chart on page 10 for specific safe minimum internal temperature.</i></p>		
Seafood	<ul style="list-style-type: none"> Any raw or undercooked fish, or shellfish, or food containing raw or undercooked seafood e.g., sashimi, found in some sushi or ceviche. Refrigerated smoked fish Partially cooked seafood, such as shrimp and crab 	<ul style="list-style-type: none"> Previously cooked seafood heated to 165 °F Canned fish and seafood Seafood cooked to 145 °F
Milk	<ul style="list-style-type: none"> Unpasteurized (raw) milk 	<ul style="list-style-type: none"> Pasteurized milk
Eggs	<p>Foods that contain raw/undercooked eggs, such as:</p> <ul style="list-style-type: none"> Homemade Caesar salad dressings* Homemade raw cookie dough* Homemade eggnog* 	<p><i>At home:</i></p> <ul style="list-style-type: none"> Use pasteurized eggs/egg products when preparing recipes that call for raw or undercooked eggs <p><i>When eating out:</i></p> <ul style="list-style-type: none"> Ask if pasteurized eggs were used
<p><i>*Tip: Most pre-made foods from grocery stores, such as Caesar dressing, pre-made cookie dough, or packaged eggnog are made with pasteurized eggs.</i></p>		
Sprouts	<ul style="list-style-type: none"> Raw sprouts (alfalfa, bean, or any other sprout) 	<ul style="list-style-type: none"> Cooked sprouts
Vegetables	<ul style="list-style-type: none"> Unwashed fresh vegetables, including lettuce/salads 	<ul style="list-style-type: none"> Washed fresh vegetables, including salads Cooked vegetables
Cheese	<ul style="list-style-type: none"> Soft cheeses made from unpasteurized (raw) milk, such as: <ul style="list-style-type: none"> — Feta — Brie — Camembert — Blue-veined — Queso fresco 	<ul style="list-style-type: none"> Hard cheeses Processed cheeses Cream cheese Mozzarella Soft cheeses that are clearly labeled “made from pasteurized milk”
Hot Dogs and Deli Meats	<ul style="list-style-type: none"> Hot dogs, deli meats, and luncheon meats that have not been reheated 	<ul style="list-style-type: none"> Hot dogs, luncheon meats, and deli meats reheated to steaming hot or 165 °F
<p><i>Tip: You need to reheat hot dogs, deli meats, and luncheon meats before eating them because the bacteria Listeria monocytogenes grows at refrigerated temperatures (40 °F or below). This bacteria may cause severe illness, hospitalization, or even death. Reheating these foods until they are steaming hot destroys these dangerous bacteria and makes these foods safe for you to eat.</i></p>		
Pâtés	<ul style="list-style-type: none"> Unpasteurized, refrigerated pâtés or meat spreads 	<ul style="list-style-type: none"> Canned or shelf-stable pâtés or meat spreads

Taking Care:

Handling and Preparing Food Safely

Foodborne pathogens are sneaky. Food that appears completely fine can contain pathogens—disease-causing bacteria, viruses, or parasites—that can make you sick. You should never taste a food to determine if it is safe to eat.



As a transplant recipient, it is especially important that you—or those preparing your food—are always careful with food handling and preparation. The easiest way to do this is to Check Your Steps – *clean, separate, cook, and chill* – from the Food Safe Families Campaign.

Four Basic Steps to Food Safety



1. Clean: *Wash hands and surfaces often*

Bacteria can spread throughout the kitchen and get onto cutting boards, utensils, counter tops, and food.

To ensure that your hands and surfaces are clean, be sure to:

- Wash hands in warm soapy water for at least 20 seconds before and after handling food and after using the bathroom, changing diapers, or handling pets.
- Wash cutting boards, dishes, utensils, and counter tops with hot soapy water between the preparation of raw meat, poultry, and seafood products and preparation of any other food that will not be cooked. As an added precaution, sanitize cutting boards and countertops by rinsing them in a solution made of one tablespoon of unscented liquid chlorine bleach per gallon of water, or, as an alternative, you may run the plastic board through the wash cycle in your automatic dishwasher.
- Use paper towels to clean up kitchen surfaces. If using cloth towels, you should wash them often in the hot cycle of the washing machine.
- Wash produce. Rinse fruits and vegetables, and rub firm-skin fruits and vegetables under running tap water, including those with skins and rinds that are not eaten.
- With canned goods: remember to clean lids before opening.



2. Separate: *Don't cross-contaminate*

Cross-contamination occurs when bacteria are spread from one food product to another. This is especially common when handling raw meat, poultry, seafood, and eggs. The key is to keep these foods—and their juices—away from ready-to-eat foods.

To prevent cross-contamination, remember to:

- Separate raw meat, poultry, seafood, and eggs from other foods in your grocery shopping cart, grocery bags, and in your refrigerator.
- Never place cooked food on a plate that previously held raw meat, poultry, seafood, or eggs without first washing the plate with hot soapy water.
- Don't reuse marinades used on raw foods unless you bring them to a boil first.
- Consider using one cutting board only for raw foods and another only for ready-to-eat foods, such as bread, fresh fruits and vegetables, and cooked meat.



3. Cook: *Cook to safe temperatures*

Foods are safely cooked when they are heated to the USDA-FDA recommended safe minimum internal temperatures, as shown on the “Is It Done Yet?” chart (see next page).

To ensure that your foods are cooked safely, always:

- Use a **food thermometer** to measure the internal temperature of cooked foods. Check the internal temperature in several places to make sure that the meat, poultry, seafood, or egg product is cooked to safe minimum internal temperatures.
- Cook **ground beef** to at least 160 °F and **ground poultry** to a safe minimum internal temperature of 165 °F. Color of food is not a reliable indicator of safety or doneness.
- Reheat **fully cooked hams** packaged at a USDA-inspected plant to 140 °F. For fully cooked ham that has been repackaged in any other location or for leftover fully cooked ham, heat to 165 °F.
- Cook **seafood** to 145 °F. Cook **shrimp, lobster, and crab** until they turn red and the flesh is pearly opaque. Cook **clams, mussels, and oysters** until the shells open. If the shells do not open, do not eat the seafood inside.
- Cook **eggs** until the yolks and whites are firm. Use only recipes in which the eggs are cooked or heated to 160 °F.
- Cook all raw **beef, lamb, pork, and veal steaks, roasts, and chops** to 145 °F with a 3-minute rest time after removal from the heat source.

3. Cook: Cook to safe temperatures (cont.)

- Bring **saucers, soups, and gravy** to a boil when reheating. Heat other leftovers to 165 °F.
- Reheat **hotdogs, luncheon meats, bologna, and other deli meats** until steaming hot or 165 °F
- When cooking in a microwave oven, cover food, stir, and rotate for even cooking. If there is no turntable, rotate the dish by hand once or twice during cooking. Always allow standing time, which completes the cooking, before checking the internal temperature with a food thermometer. Food is done when it reaches the USDA-FDA recommended safe minimum internal temperature.

Is It Done Yet?

Use a food thermometer to be most accurate. You can't always tell by looking.

USDA-FDA Recommended Safe Minimum Internal Temperatures				
				
Beef, Pork, Veal, Lamb Steaks, Roasts & Chops 145 °F with 3-minute rest time	Fish 145 °F	Beef, Pork, Veal, Lamb Ground 160 °F	Egg Dishes 160 °F	Turkey, Chicken & Duck Whole, Pieces & Ground 165 °F



4. Chill: Refrigerate promptly

Cold temperatures slow the growth of harmful bacteria. Keeping a constant refrigerator temperature of **40 °F or below** is one of the most effective ways to reduce risk of foodborne illness. Use an appliance thermometer to be sure the refrigerator temperature is consistently 40 °F or below and the freezer temperature is 0 °F or below.

To chill foods properly:

- Refrigerate or freeze meat, poultry, eggs, seafood, and other perishables within 2 hours of cooking or purchasing. Refrigerate within 1 hour if the temperature outside is above 90 °F.
- Never thaw food at room temperature, such as on the counter top. It is safe to thaw food in the refrigerator, in cold water, or in the microwave. If you thaw food in cold water or in the microwave, you should cook it immediately.
- Divide large amounts of food into shallow containers for quicker cooling in the refrigerator.
- Follow the recommendations in the abridged USDA-FDA Cold Storage Chart (see page 11). The USDA-FDA Cold Storage Chart in its entirety may be found at www.fsis.usda.gov/Fact_Sheets/Refrigeration_&_Food_Safety/index.asp.

Check Your Steps



- Check “Sell-By” date
- Put raw meat, poultry, or seafood in plastic bags
- Buy only pasteurized milk, soft cheeses made with pasteurized milk, and pasteurized or juices that have been otherwise treated to control harmful bacteria.
- When buying eggs:
 - Purchase *refrigerated* shell eggs
 - If your recipe calls for raw eggs, purchase pasteurized, *refrigerated* liquid eggs
- Don’t buy food displayed in unsafe or unclean conditions

Is It Done Yet?

You can’t tell by looking. Use a food thermometer to be sure.

USDA-FDA Recommended Safe Minimum Internal Temperatures

				
Beef, Pork, Veal, Lamb Steaks, Roasts & Chops	Fish	Beef, Pork, Veal, Lamb Ground	Egg Dishes	Turkey, Chicken & Duck Whole, Pieces & Ground
145 °F <small>with 3-minute rest time</small>	145 °F	160 °F	160 °F	165 °F

Ordering “Smart” When Eating Out

Higher Risk:

- ✗ Cheese made from unpasteurized (raw) milk.
- ✗ Raw or undercooked seafood.
- ✗ Cold hot dogs.
- ✗ Sandwiches with cold deli or luncheon meat.
- ✗ Raw or undercooked fish, such as sashimi or some kind of sushi.
- ✗ Soft-boiled or “over-easy” eggs, as the yolks are not fully cooked.

Lower Risk:

- ✓ Hard or processed cheeses. Soft cheeses only if made from pasteurized milk.
- ✓ Fully cooked smoked fish or seafood.
- ✓ Hot dogs reheated to steaming hot. If the hot dogs are served cold or lukewarm, ask to have the hot dogs reheated until steaming, or else choose something else.
- ✓ Grilled sandwiches in which the meat or poultry is heated until steaming.
- ✓ Fully cooked fish that is firm and flaky; vegetarian sushi.
- ✓ Fully cooked eggs with firm yolk and whites.

Got food safety questions?

AskKaren.gov



Visit “Ask Karen” at AskKaren.gov to ask a food safety question

Call the **USDA Meat & Poultry Hotline: 1-888-MPHotline**
(1-888-674-6854)

and **FDA Food Information Line**
1-888-SAFEFOOD
(1-888-723-3366)

MP Hotline



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USDA-FDA Cold Storage Chart

These time limit guidelines will help keep refrigerated food safe to eat. Because freezing keeps food safe indefinitely, recommended storage times for frozen foods are for quality only.

Product	Refrigerator (40 °F)	Freezer (0 °F)
Eggs		
Fresh, in shell	3 to 5 weeks	Don't freeze
Hard cooked	1 week	Don't freeze well
Liquid Pasteurized Eggs, Egg Substitutes		
Opened	3 days	Don't freeze well
Unopened	10 days	1 year
Deli and Vacuum-Packed Products		
Egg, chicken, ham, tuna, & macaroni salads	3 to 5 days	Don't freeze well
Hot Dogs		
Opened package	1 week	1 to 2 months
Unopened package	2 weeks	1 to 2 months
Luncheon Meat		
Opened package	3 to 5 days	1 to 2 months
Unopened package	2 weeks	1 to 2 months
Bacon & Sausage		
Bacon	7 days	1 month
Sausage, raw — from chicken, turkey, pork, beef	1 to 2 days	1 to 2 months
Hamburger and Other Ground Meats		
Hamburger, ground beef, turkey, veal, pork, lamb, & mixtures of them	1 to 2 days	3 to 4 months
Fresh Beef, Veal, Lamb, Pork		
Steaks	3 to 5 days	6 to 12 months
Chops	3 to 5 days	4 to 6 months
Roasts	3 to 5 days	4 to 12 months
Fresh Poultry		
Chicken or turkey, whole	1 to 2 days	1 year
Chicken or turkey, pieces	1 to 2 days	9 months
Seafood		
Lean fish (flounder, haddock, halibut, etc.)	1 to 2 days	6 to 8 months
Fatty fish (salmon, tuna, etc.)	1 to 2 days	2 to 3 months
Leftovers		
Cooked meat or poultry	3 to 4 days	2 to 6 months
Chicken nuggets, patties	3 to 4 days	1 to 3 months
Pizza	3 to 4 days	1 to 2 months

In the Know: *Becoming a Better Shopper*

Follow these safe food-handling practices while you shop.

- Carefully read food labels while in the store to make sure food is not past its “sell by” date. (See Food Product Dating on page 13)
- Put raw packaged meat, poultry, or seafood into a plastic bag before placing it in the shopping cart, so that its juices will not drip on—and contaminate—other foods. If the meat counter does not offer plastic bags, pick some up from the produce section before you select your meat, poultry, and seafood.
- Buy only pasteurized milk, cheese, and other dairy products from the refrigerated section. When buying fruit juice from the refrigerated section of the store, be sure that the juice label says it is **pasteurized**.
- Purchase eggs in the shell from the refrigerated section of the store. (Note: store the eggs in their original carton in the main part of your refrigerator once you are home.) For recipes that call for eggs that are raw or undercooked when the dish is served—homemade Caesar salad dressing and ice cream are two examples—use either shell eggs that have been treated to destroy *Salmonella* by pasteurization, or pasteurized egg products. When consuming raw eggs, using pasteurized eggs is the safer choice.
- **Never** buy food that is displayed in unsafe or unclean conditions.
- When purchasing canned goods, make sure that they are free of dents, cracks, or bulging lids. (Once you are home, remember to clean each lid before opening the can.)
- Purchase produce that is not bruised or damaged.



*When shopping for food,
it is important to read the label carefully.*

Food Product Dating

Read the “Safe Handling Label” for food safety information on raw foods.

Types of Open Dates

Open dating is found primarily on perishable foods such as meat, poultry, eggs, and dairy products.

- A “**Sell-By**” date tells the store how long to display the product for sale. You should buy the product before the date expires.
- A “**Best If Used By (or Before)**” date is recommended for best flavor or quality. It is not a purchase or safety date.
- A “**Use-By**” date is the last date recommended for the use of the product while at peak quality. The date has been determined by the manufacturer of the product.



BEST IF USED BY

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“**Closed or coded dates**” are packing numbers for use by the manufacturer. “Closed” or “coded” dating might appear on shelf-stable products such as cans and boxes of food.

Transporting Your Groceries



Follow these tips for safe transporting of your groceries:

- Pick up perishable foods last, and plan to go directly home from the grocery store.
- Always refrigerate perishable foods within 2 hours of cooking or purchasing.
- Refrigerate within 1 hour if the temperature outside is above 90 °F.
- In hot weather, take a cooler with ice or another cold source to transport foods safely.

Being Smart

When Eating Out

Eating out can be lots of fun—so make it an enjoyable experience by following some simple guidelines to avoid food-borne illness. Remember to observe your food when it is served, and don't ever hesitate to ask questions before you order. Waiters and waitresses can be quite helpful if you ask how a food is prepared. Also, let them know you don't want any food item containing raw meat, poultry, seafood, sprouts, or eggs.



Basic Rules for Ordering

- Ask whether the food contains uncooked ingredients such as eggs, sprouts, meat, poultry, or seafood. If so, choose something else.
- Ask how these foods have been cooked. If the server does not know the answer, ask to speak to the chef to be sure your food has been cooked to a safe minimum internal temperature.
- If you plan to get a “doggy bag” or save leftovers to eat at a later time, refrigerate perishable foods as soon as possible—and always within 2 hours after purchase or delivery. If the leftover food is in air temperatures above 90 °F, refrigerate it within 1 hour.

If in doubt, make another selection!

Smart Menu Choices

Higher Risk:	Lower Risk:
✗ Soft cheese made from unpasteurized (raw) milk.	✓ Hard or processed cheeses. Soft cheeses only if they are made from pasteurized milk.
✗ Refrigerated smoked seafood and raw or undercooked seafood.	✓ Fully cooked fish or seafood.
✗ Cold or improperly heated hot dogs.	✓ Hot dogs reheated to steaming hot. If the hot dogs are served cold or lukewarm, ask to have them reheated until steaming, or else choose something else.
✗ Sandwiches with cold deli or luncheon meat.	✓ Grilled sandwiches in which the meat or poultry is heated until steaming.
✗ Raw or undercooked fish, such as sashimi, non-vegetarian sushi, or cerviche.	✓ Fully cooked fish that is firm and flaky
✗ Soft-boiled or “over-easy” eggs, as the yolks are not fully cooked.	✓ Fully cooked eggs with firm yolk and whites.
✗ Salads, wraps, or sandwiches containing raw (uncooked) or lightly cooked sprouts	✓ Salads, wraps, or sandwiches containing cooked sprouts.

Ask questions about how your food is cooked.

Tips for Transporting Food

- Keep cold food cold, at 40 °F or below. To be safest, place cold food in cooler with ice or frozen gel packs. Use plenty of ice or frozen gel packs. Cold food should be at 40 °F or below the entire time you are transporting it.
- Hot food should be kept hot at 140 °F or above. Wrap the food well and place in an insulated container.



Stay “Food Safe” When Traveling Internationally

Discuss your travel plans with your physician before traveling to other countries. Your physician may have specific recommendations for the places you are visiting, and may suggest extra precautions or medications to take on your travels.

For more information about safe food and water while traveling abroad, access the Centers for Disease Control and Prevention Web site at www.cdc.gov/travel.

Foodborne Illness:

Know the Symptoms

Despite your best efforts, you may find yourself in a situation where you suspect you have a foodborne illness. Foodborne illness often presents itself with flu-like symptoms.

These symptoms include:

- Nausea
- Vomiting
- Diarrhea
- Fever

If you suspect that you could have a foodborne illness, there are four key steps that you should take. Follow the guidelines in the Foodborne Illness Action Plan on page 17, which begins with contacting your physician or healthcare provider right away.



*When in doubt—contact your physician
or healthcare provider!*

My Physicians: Quick Reference List

Name: _____

Phone: _____ Specialty: _____

.....

Name: _____

Phone: _____ Specialty: _____

.....

Name: _____

Phone: _____ Specialty: _____

Foodborne Illness Action Plan

*If you suspect you have a foodborne illness,
follow these general guidelines:*

1. Consult your transplant coordinator or physician, or seek medical treatment as appropriate.

As a transplant recipient on immunosuppressive medications, you are at increased risk for severe infection.

- Contact your physician immediately if you develop symptoms or think you may be at risk.
- If you develop signs of infection as discussed with your physician, seek out medical advice and/or treatment immediately.

2. Preserve the food.

- If a portion of the suspect food is available, wrap it securely, label it to say “DANGER,” and freeze it.
- The remaining food may be used in diagnosing your illness and in preventing others from becoming ill.



3. Save all the packaging materials, such as cans or cartons.

- Write down the food type, the date and time consumed, and when the onset of symptoms occurred. Write down as many foods and beverages you can recall consuming in the past week (or longer), since the onset time for various foodborne illnesses differ.
- Save any identical unopened products.
- If the suspect food is a USDA-inspected meat, poultry, or egg product, call the USDA Meat and Poultry Hotline, **1-888-MPHotline (1-888-674-6854)**. For all other foods, call the FDA Office of Emergency Operations at 1-866-300-4374 or 301-796-8240.

4. Call your local health department . . .

. . . if you believe you became ill from food you ate in a restaurant or other food establishment.

- The health department staff will be able to assist you in determining whether any further investigation is warranted.
- To locate your local health department, visit **http://healthguideusa.org/local_health_departments.htm**.

For More Information on Food Safety

You may contact the USDA Food Safety and Inspection Service and the HHS Food and Drug Administration to obtain additional food safety information in both English and Spanish.

Online:

Information can be accessed on the FSIS Website at www.fsis.usda.gov or at the FDA Website at www.fda.gov/food.



- **Food Safety Questions? “Ask Karen”**— The FSIS Virtual Representative— an automated response system is available 24/7 at AskKaren.gov.
- Send e-mail inquiries to mph hotline.fsis@usda.gov or to consumer@FDA.gov.

By Phone:

Call the **USDA Meat and Poultry Hotline at 1-888-MPHotline (1-888-674-6854)** or call the **FDA Food Information Line 1-888-SAFE FOOD (1-888-723-3366)**

- These year-round, toll-free Hotlines are available Monday through Friday from 10 a.m. to 4 p.m. Eastern Time.
- An extensive selection of timely food safety messages is also available at these same numbers, 24 hours a day.

Local Resources:

State Department of Agriculture: _____

State or Local Health Department: _____

Other: _____

Additional Food Safety Resources

Gateway to Government Food Safety Information, including all recalls and alerts www.foodsafety.gov

Centers for Disease Control and Prevention

1-800-232-4636 (24-hour recorded information)

www.cdc.gov/foodsafety

- **National Center for Infectious Diseases/Traveler's Health**
<http://wwwnc.cdc.gov/travel>
- **National Center for Infectious Diseases/Healthy Water**
www.cdc.gov/healthywater/

U.S. Environmental Protection Agency Office of Water

<http://water.epa.gov>

Partnership for Food Safety Education (Fight BAC!®)

www.fightbac.org

To order this and/or other At-risk booklets, contact the

USDA Meat and Poultry Hotline

1-888-MPHotline

(1-888-674-6854)

E-mail: mpholine.fsis@usda.gov

or

fsis.outreach@usda.gov

At-risk Food Safety Booklets for:

Older Adults

Pregnant Women

People with Cancer

People with Diabetes

People with HIV/AIDS

Transplant Recipients

To chat with our food safety virtual representative, contact

“Ask Karen”

FSIS’s Web-based automated response system – available 24/7

Askkaren.gov

PregunteleaKaren.gov

Food Safety and Inspection Service

www.fsis.usda.gov



U.S. Department of Agriculture
Food Safety and Inspection Service



U.S. Department of Health and Human Services
Food and Drug Administration

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Food Safety for Transplant Recipients