



E. coli O157:H7

food safety facts



Preventing foodborne illness

What is foodborne illness?

Food contaminated by bacteria, viruses and parasites can make you sick. Many people have had foodborne illness and not even known it. It's sometimes called food poisoning, and it can feel like the flu. Symptoms may include the following:

- stomach cramps
- nausea
- vomiting
- diarrhea
- fever

Symptoms can start soon after eating contaminated food, but they can hit up to a month or more later. For some people, especially young children, the elderly, pregnant women and people with weakened immune systems, foodborne illness can be very dangerous.

Public health experts estimate that there are as many as 13 million cases of foodborne illness in Canada every year. Most cases of foodborne illness can be prevented by using safe food handling practices and using a food thermometer to check that your food is cooked to a safe internal temperature!

What is *Escherichia coli* O157:H7?

Escherichia coli O157:H7 (called *E. coli* in this pamphlet) bacteria are found naturally in the intestines of cattle, poultry and other animals. If people become infected with these bacteria, the infection can result in serious illness. Several other types of *E. coli* can also infect people and cause illness.

What are the symptoms of *E. coli* infection?

Symptoms can develop within hours and up to 10 days after ingesting the bacteria, characterized by severe abdominal cramping. Some people may also have bloody diarrhea (hemorrhagic colitis). Others infected with the bacteria may not get sick or show symptoms, but they can carry the bacteria, and spread the infection to others.

How serious is the infection?

Most people recover within seven to 10 days, but up to 15 percent develop Hemolytic Uremic Syndrome (HUS), an unusual type of kidney failure and blood disorder, which can be fatal.

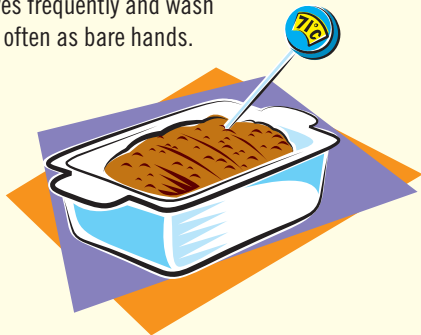
Symptoms of HUS vary, depending on the person's health and the extent of the infection. Some people may have seizures or strokes and some may need blood transfusions and kidney dialysis. Others may live with side effects like permanent kidney damage. Although everyone is susceptible to *E. coli* infection, pregnant women, people with compromised immune systems, young children and the elderly are most at risk for developing serious complications.

How does the bacteria spread?

E. coli bacteria can sometimes contaminate the surface of meat when animals are slaughtered, despite precautions. In highly processed or ground meat, the mechanical process can spread the bacteria through the meat. Raw fruits and vegetables can become contaminated with pathogens while in the field, by improperly composted manure, contaminated water, wildlife and poor hygienic practices of the farm workers.

E. coli bacteria are often spread from person-to-person. Both animals and people infected with the bacteria can be carriers. Therefore, proper hygiene, safe food handling and preparation practices are key to preventing foodborne illness. If you think you are infected with *E. coli* bacteria or any other gastrointestinal illness, do not prepare food for other people. It's also a good idea to keep pets away from food storage and preparation areas.

FOODSAFE TIP: Gloves can pick up bacteria too. Change gloves frequently and wash gloved hands as often as bare hands.



Where has *E. coli* O157:H7 been found?

Food can become contaminated with *E. coli* during the slaughter and processing of an animal, when food is handled by a person infected with *E. coli* or from cross-contamination because of unsanitary food handling practices. The following listed below have been responsible for foodborne illnesses:

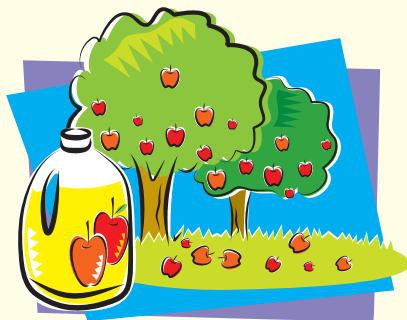
- ground beef
- raw fruits and vegetables, including sprouts
- **untreated** water
- **unpasteurized** (raw) milk and (raw) milk products, including raw milk cheese
- **unpasteurized** apple juice/cider
- petting zoos

Should I eat unpasteurized products?

Pasteurization destroys *E. coli* O157:H7 and other harmful bacteria. If you choose to eat or drink

unpasteurized dairy products or drink **unpasteurized** juice/cider, be aware! Food safety experts don't recommend **unpasteurized** products, particularly for young children, the elderly, pregnant women

and people with weakened immune systems. It's safest to drink only pasteurized dairy products. Drink juice/cider that is shelf-stable or labelled as pasteurized, or boil **unpasteurized** juice/cider before you drink it.



Will cooking destroy the bacteria?

Like many other harmful bacteria that could be in our food, *E. coli* O157:H7 are destroyed when food is cooked to a safe internal temperature. Use a digital food thermometer to measure the internal temperature of your food. See table.



INTERNAL COOKING temperatures

You can't tell by looking. Use a digital food thermometer to be sure!

FOOD	TEMPERATURE
Beef, veal and lamb (pieces and whole cuts)	
• medium-rare	63°C (145°F)
• medium	71°C (160°F)
• well done	77°C (170°F)
Pork (pieces and whole cuts)	71°C (160°F)
Poultry (e.g. chicken, turkey, duck)	
• pieces	74°C (165°F)
• whole	85°C (185°F)
Ground meat and meat mixtures (e.g. burgers, sausages, meatballs, meatloaf, casseroles)	
• beef, veal, lamb and pork	71°C (160°F)
• poultry	74°C (165°F)
Egg dishes	74°C (165°F)
Others (hot dogs, stuffing and leftovers)	74°C (165°F)

Defeating *E. coli* 0157:H7: A 4-Point Plan

1. Get off to a CLEAN start!

- Handwashing is one of the best ways to prevent the spread of foodborne illness. Do you wash your hands for at least 20 seconds with soap and warm water before and after handling food? Wash again when you switch from one food to another.
- Are your countertops and utensils clean and sanitized? Sanitizing reduces bacteria and can prevent foodborne illness.

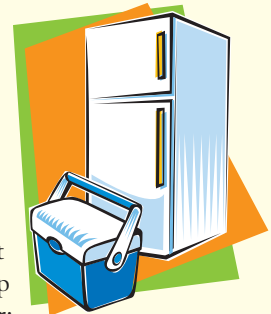
BLEACH SANITIZER

- Combine 5 mL (1 tsp) of bleach with 750 mL (3 cups) of water in a labelled spray bottle.
- After cleaning, spray sanitizer on the surface/utensil and let stand briefly.
- Rinse with lots of clean water, and air dry (or use clean towels).

FOODSAFE TIP: Because raw fruits and vegetables can be contaminated with bacteria, viruses and parasites, wash them thoroughly with clean, safe running water before you prepare and eat them. Use a brush to scrub produce with firm or rough surfaces, such as oranges, cantaloupes, potatoes and carrots.

2. CHILL your food and stop bacteria cold!

- Bacteria can grow in the danger zone between 4°C and 60°C (40°F to 140°F). Keep cold food cold at or below 4°C (40°F).
- Refrigeration at or below 4°C (40°F) slows down most bacterial growth. Freezing at or below -18°C (0°F) can stop it completely. (But remember: refrigeration and freezing won't kill bacteria. Only proper cooking will do that!)



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FOODSAFE TIP: Thaw food in the fridge or in the microwave just before you want to cook it. Always marinate meat, poultry and seafood in the refrigerator!

3. SEPARATE! Don't cross-contaminate!

- Bacteria can be carried in raw meat juices. Place raw meat, poultry and seafood in containers on the bottom shelf of the refrigerator. Use containers that are large enough to prevent raw juices from dripping onto other food or touching other food. Platters, utensils and cutting boards used for raw meat can carry bacteria, too, so use clean ones for cooked and other ready-to-eat food!
- Keep raw food away from ready-to-eat food while shopping, storing and preparing foods.

FOODSAFE TIP: Before marinating meat, set some marinade aside in the fridge so you can use it later to baste meat or as a dipping sauce. Do not use leftover marinade from the raw food on the cooked food.

4. COOK safely!

- Cooking meat to a safe internal temperature destroys *E. coli* bacteria. Use a digital food thermometer to check the internal temperature of your food. See table.



FOODSAFE TIP: Did you know that hamburgers can turn brown inside before they have been safely cooked? Don't use colour, look or feel of your meat to guess doneness. Use a food thermometer instead. Remember: Your burger's done at 71°C (160°F).

- Bacteria can grow quickly in the danger zone between 4°C and 60°C (40°F to 140°F) so keep hot foods at or above 60°C (140°F).

**Your burger's done at 71°C
(160°F)! Use a food thermometer
to check.**

Safeguarding Canada's Food Supply

The Canadian Food Inspection Agency (CFIA) is the Government of Canada's science-based regulator for animal health, plant protection and, in partnership with Health Canada, food safety.

For more information on food safety or to order free copies of this brochure, visit the CFIA website at www.inspection.gc.ca or call 1-800-442-2342/TTY 1-800-465-7735 (8:00 a.m. to 8:00 p.m. Eastern Time, Monday to Friday). You can also find food safety information on the Health Canada and Canadian Partnership for Consumer Food Safety Education websites respectively at www.hc-sc.gc.ca and www.canfightbac.org