

# E. coli Bacteria

## What You Need to Know

THE KIDNEY FOUNDATION OF CANADA, B.C. BRANCH  
THE JACKIE FAMILY FUND



## What is E. coli?

E. coli are bacteria that reside in the bowel of many animals (cattle, pigs, sheep and poultry) and humans. There are many strains of E. coli, some of which are more damaging to human health than others. Urinary tract infections, for example, are commonly caused by E. coli. However, there are a few strains of E. coli that if ingested can produce a harmful toxin that causes bloody diarrhoea, E. coli 0157:H7 being the most common strain.

## What types of foods can be contaminated with strains of E. coli that cause serious illness?



The most common foods to contain harmful E. coli are beef, pork, lamb and poultry. Foods such as unpasteurized milk, unpasteurized fruit juices, and raw vegetables can also become contaminated with E. coli.



## How do you get E. coli?

### 1 Drinking water: Surface and untreated

Untreated water may become contaminated with E. coli bacteria. If you are not sure about a water source, ALWAYS boil the water for 5 minutes. (Surface water includes creeks, streams & irrigation water.)

### 2 Hand-to-mouth spread of E. coli

A most important risk factor is person to person spread in families, daycares, institutions, or where there is an outbreak of diarrhoea due to E. coli. Proper hygiene and proper food preparation can stop the spread of an E. coli outbreak. Examples of hand-to-mouth infection include –

#### POOR HYGIENE

After using the toilet, the caregiver, parent or child does not thoroughly wash their hands. This person then touches door handles, counters, toys, food, etc. Another person/child then touches the areas contaminated with fecal matter/E. coli, and their fingers or hands then come in contact with their mouth.

#### IMPROPER FOOD PREPARATION

Cross-contamination occurs when raw food contaminates cooked or ready-to-eat food, i.e. using the same plate for raw meat, then cooked meat; or, wiping up drips of blood from raw meat, then using this cloth to wipe counter tops, table or children's hands/faces.

### 3 How does food become contaminated with E. coli?

Beef, pork, lamb and poultry can become contaminated with E. coli. However, the food that is most commonly contaminated is raw or undercooked ground meat. When meat is ground, the E. coli bacteria are distributed throughout the meat. If the ground meat is not completely cooked, the bacteria at the centre of the ground meat remain alive.

Fruit that falls from the tree is often used to make cider or juice. Unwashed fruits and vegetables and fruit juices can become contaminated with E. coli bacteria through soil infected with manure or contaminated irrigation water. Milk products that are not pasteurized may also carry harmful bacteria, including E. coli.



## E. coli Prevention and Safety Tips

**You can help protect yourself and your family against E. coli infection by following this advice.**

### FREEZING DOES NOT KILL E. COLI.

- 1 If not sure of a water source, ALWAYS boil for 5 minutes – this will destroy bacteria, viruses and parasites.
- 2 Fruit juices, ciders and milk which are unpasteurized should be avoided.
- 3 ALWAYS wash all fruits and vegetables, including those you peel or cut, such as melons, oranges, cucumbers.
- 4 ALWAYS wash hands with hot, soapy water after using the toilet, changing diapers, before preparing food and after visits to farms or petting zoos.
- 5 When buying meat, make sure the package is not dripping juices. Put the meat in a plastic bag away from children.
- 6 Freeze or refrigerate meat as soon as possible after purchase.
- 7 ALWAYS thaw meat in the microwave, or overnight in the fridge, NEVER at room temperature.
- 8 Wash hands with hot, soapy water for twenty seconds, before and especially IMMEDIATELY after handling raw meat.
- 9 Cook hamburger and other ground meats thoroughly. Using a digital instant read thermometer, cook to an internal temperature of 71°C (160°F).
- 10 SEPARATE, don't cross-contaminate. Store meat/poultry/seafood separately in bottom of fridge. Use a separate cutting board for raw meat/poultry/seafood.
- 11 Place washed produce into clean containers, not back into original packaging.
- 12 Thoroughly wash and then sanitize with a diluted bleach solution (1 tsp/5ml bleach: 3 cups/750 mL water), all utensils and cutting surfaces used in the handling of raw meat.
- 13 Change sponges, dishcloths, aprons and towels often – machine wash in HOT water and detergent.

## How does E. coli bacteria make you sick?

E. coli bacteria produce a toxin which can cause damage to red blood cells, the kidneys and other organs. In ten percent of children, E. coli infection leads to **Hemolytic Uremic Syndrome (HUS)**, which is one of the leading causes of acute kidney failure in children. HUS can lead to death in young children, the elderly and those with immune problems.

## What are the symptoms for E. coli?

If a person becomes infected with E. coli bacteria, mild to severe flu-like symptoms can occur. Symptoms can include vomiting, diarrhoea (often bloody), severe abdominal cramps and low grade fever.

## Who is at risk?

E. coli is most dangerous to young children, elderly adults and those people with immune problems.

## Sources for more information on E. coli and Food Safety

Food Safety Info Line (NWT, BC, AB, SK, MB)  
**1-800-892-8333**

Canadian Food Inspection Agency  
**www.inspection.gc.ca** or **1-800-442-2342**

Canadian Partnership for Consumer  
Food Safety Education  
**www.canfightbac.org**

Beef Information Centre  
**www.beefinfo.org** or **1-888-248-beef**

Health Canada  
**www.hc-sc.gc.ca** or **1-866-225-0709**

The Kidney Foundation of Canada  
**www.kidney.ca** or **1-800-361-7494**

The Kidney Foundation of Canada, B.C. Branch  
**www.kidney.bc.ca** or **1-800-567-8112**

## The Jackie Family Fund

The Jackie Family Fund and The Kidney Foundation of Canada, B.C. Branch are grateful to the following groups for their assistance in the preparation of this brochure:

- Medical Advisory Committee, The Kidney Foundation of Canada, B.C. Branch
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- Health Canada

In 1995, the Jackie family established The Jackie Family Fund to promote awareness and education regarding the prevention of Hemolytic Uremic Syndrome (HUS). The Jackies' young daughter was diagnosed with chronic kidney disease as a result of HUS caused by E. coli 0157:H7. She received a kidney transplant in 2003.

Anne Nickerson (Jackie), founder of The Jackie Family Fund, is an active volunteer with The Kidney Foundation of Canada, and past President of the B.C. Branch Board. Ms. Nickerson is the recipient of the Commemorative Medal for The Queen's Golden Jubilee (2002) and the B.C. Medical Association Excellence in Health Promotion Award (2004).

To order free brochures or find out more about kidney disease, please contact The Kidney Foundation of Canada, B.C. Branch toll free at 1-800-567-8112. The brochure may also be downloaded at [www.kidney.bc.ca](http://www.kidney.bc.ca)



### **The Jackie Family Fund**

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