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Revised

## Questions & Answers

# Coliform Bacteria and Drinking Water

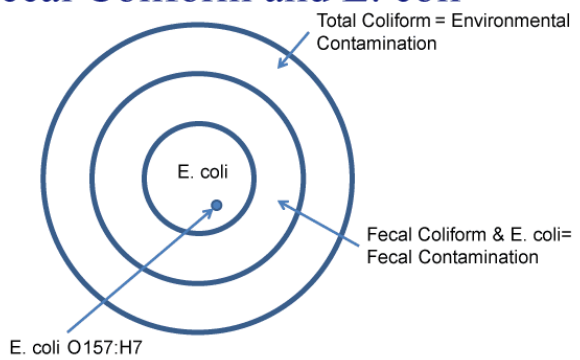
Public water systems must deliver safe and reliable drinking water to their customers 24 hours a day, 365 days a year. If the water supply becomes contaminated, consumers can get seriously ill. Fortunately, public water systems take many steps to make sure drinking water is safe. One of the most important steps is regular testing for coliform bacteria.

### What are coliform bacteria?

Coliform bacteria are present in the environment and feces of all warm-blooded animals and humans. Coliform bacteria are unlikely to cause illness. However, their presence in drinking water indicates that disease-causing organisms (pathogens) could be in the water system. Most pathogens that can contaminate water supplies come from the feces of humans or animals. Testing drinking water for all possible pathogens is complex, time-consuming, and expensive. It is easy and inexpensive to test for coliform bacteria. If testing detects coliform bacteria in a water sample, water systems search for the source of contamination and restore safe drinking water.

**There are three groups of coliform bacteria. Each is an indicator of drinking water quality and each has a different level of risk.** Total coliform is a large collection of different kinds of bacteria. Fecal coliform are types of total coliform that exist in feces. *E. coli* is a subgroup of fecal coliform. Labs test drinking water samples for total coliform. If total coliform is present, the lab also tests the sample for *E. coli*.

### Total Coliform, Fecal Coliform and E. coli



**Total coliform bacteria** are common in the environment (soil or vegetation) and are generally harmless. If a lab detects only total coliform bacteria in drinking water, the source is probably environmental and fecal contamination is unlikely. However, if environmental contamination can enter the system, pathogens could get in too. It is important to find and resolve the source of the contamination.

**Fecal coliform bacteria** are a subgroup of total coliform bacteria. They exist in the intestines and feces of people and animals.



HELPING TO ENSURE SAFE AND RELIABLE DRINKING WATER

*E. coli* is a subgroup of the fecal coliform group. Most *E. coli* bacteria are harmless and exist in the intestines of people and warm-blooded animals. However, some strains can cause illness. The presence of *E. coli* in a drinking water sample usually indicates recent fecal contamination. That means there is a greater risk that pathogens are present.

**Note:** *E. coli* outbreaks receive a lot of media coverage. A specific strain of *E. coli* bacteria known as *E. coli O157:H7* causes most of those outbreaks. When a drinking water sample is reported as “*E. coli* present,” it does not mean that *O157:H7* is present. However, it does indicate recent fecal contamination. Boiling or disinfecting contaminated drinking water destroys all forms of *E. coli*, including *O157:H7*.

### **What if coliform bacteria are found in my water?**

When coliform bacteria are found, water systems investigate to find out how the contamination got into the water. They collect additional water samples and often inspect the entire system.

Collecting additional samples helps determine whether an actual problem exists. If the lab detects bacteria in any of the additional samples, the initial findings are “confirmed.”

### **What if total coliform bacteria are confirmed in my water?**

If a lab confirms total coliform bacteria in your drinking water, your water system must conduct an assessment to find out how the contamination got into the water. If the assessment identifies the cause of the contamination, the water system can usually correct the problem with repairs, treatment, or improved operation and maintenance practices. We help water systems resolve problems. When a lab confirms total coliform bacteria in drinking water, we recommend that the water system notify its customers as soon as possible. The notice will explain what the system is doing to correct the problem, when the problem will likely be resolved, and what customers may need to do until then.

### **What if *E. coli* are confirmed in my water?**

Confirmation of *E. coli* in a water system indicates recent fecal contamination, which may pose an immediate health risk to anyone who consumes the water. The water system will issue a “health advisory” within 24 hours to alert all water users of a health risk associated with the water supply. The advisory usually recommends using boiled or bottled water for drinking, preparing food, and brushing teeth. It also outlines the steps underway to correct the problem and explains when the system expects to resolve the problem.

Responding to health emergencies is our highest priority. We will inspect the system as soon as possible to help the water system resolve the problem. More water samples will be collected to find and eliminate potential contamination sources, and a system not normally disinfected will most likely be chlorinated and flushed. The health advisory will remain in effect until the situation is resolved and the water is safe to drink.

### **For more information**

Our publications are online at <https://fortress.wa.gov/doh/odwpubs/>

### **Call our nearest regional office**

Northwest Region: Kent  
253-395-6750

Southwest Region: Tumwater  
360-236-3030

Eastern Region: Spokane Valley  
509-329-2100