

Safe Well Water RI

Trusted, expert information

Tip Sheet 3



“Tip sheets helped us learn about our well water.”

Get Tip Sheets at www.riwelltesting.org:

- 14 Tip Sheets about harmful substances
- 10 Tip Sheets about treatment choices
- 3 Tip Sheets about other topics of concern

Well water is groundwater, meaning that it comes from the water stored in the earth and rocks below ground. Even though groundwater is *under* the surface, substances *on* the surface, such as gas from a lawnmower or animal waste, can seep down and pollute it. Some natural substances stored in rocks and soil can also affect the smell, taste, color, and safety of well water.

Bacteria in Drinking Water Wells

Bacteria in your well water? Take action.

Bacteria are also known as germs. You may also hear the term ‘*coliform bacteria*’. Bacteria are part of the natural world and are everywhere. Some are harmful. Most are not. Coliform bacteria do not usually cause serious health problems. But, if they have seeped into your well water, it means *harmful* bacteria could get in too. Coliform bacteria are an early warning sign. Time for action.

How will I know if I have bacteria in my well water?

You won’t know unless you have your water tested. Coliform bacteria have no smell or taste. And, your water will look the same as usual.

Use a State-certified lab to test your water. Find a list here: www.health.ri.gov/find/labs/privatewelltesting.

Compare the numbers and letters on your lab test results with the standards (limits) set by the United States Environmental Protection Agency (EPA).

If a water test shows coliform bacteria are present, the lab will test for Escherichia coli (E.coli). This type, E. coli, comes only from human or animal waste and can make people sick. Those at highest risk include babies, young children, and adults whose germ-fighting (immune) systems are not working well.

The EPA standard for bacteria is a Maximum Contaminant Level (MCL). MCL is a water quality standard for substances that can harm health.

EPA limit (MCL) for coliform bacteria and E. Coli bacteria: zero (0)

There is no “safe” level of bacteria in your water. If the lab results show bacteria present in the water, follow the action steps listed on the next page.



What health problems can bacteria cause?

If you have coliform bacteria in your drinking water, you may or may not notice any health problems. It's possible for bacteria to cause diarrhea, cramps, headache, feeling sick to your stomach or tired, and jaundice. However, there are many other possible causes for all these conditions.

If you have bacteria in your water and you need to drink or cook with it, boil it for at least 1 minute before using.

How do bacteria get into well water?

It's easy for bacteria to get into certain wells. This includes wells that are:

- Open on top
- Without water-tight casings or caps
- Not sealed tight with grout between the ground and well casing
- Older, such as dug wells, spring-fed systems and cistern-type systems that are not well maintained
- Recently repaired wells that were not treated with chlorine bleach (disinfected) after the work was done

Sometimes:

- ▶ Rodents or insects fall into wells and pollute them.
- ▶ Dirty surface water pools around the top of a well and allows bacteria to get into the well.
- ▶ A leaky septic system or one located too close to the well pollutes it.
- ▶ The water sample used for testing was not collected properly.

If you are trying to find out how bacteria get into your well, consider both where the well sits and how it was built. Also check how water goes through the system. If you have a garden hose connected to an outside faucet, make sure you have a proper backflow device (see Tip Sheet 1).

What can I do about bacteria in my well water?

You may need to take 1 or 2 or all 3 of these actions:

- **Action 1: Disinfect the well with chlorine bleach.** Use regular household bleach that does not have scents or other additives. Find directions to disinfect your well in Tip Sheet 19.

7 – 10 days after you disinfect, retest the water for bacteria. Most of the time, this solves the problem. If not, go to Action 2.
- **Action 2: Find and fix the source of the problem.** Taking one of these actions may solve the problem:
 - ▶ Replace a leaky well cap or dug well cover
 - ▶ Repair a broken septic system
 - ▶ Divert surface water away from the well
 - ▶ Reseal the well casing
 - ▶ Get livestock or pets away from the well area
 - ▶ Drill another deeper well
- **Action 3: Use a water treatment system long-term.** If you are not able to find or fix the cause of bacteria in your water, consider using a home water treatment system long-term.
Treatment system choices:
 - ▶ Distillation—Tip Sheet 20
 - ▶ Microfiltration—Tip Sheet 22
 - ▶ Ozonation—Tip Sheet 23
 - ▶ Ultraviolet radiation—Tip Sheet 25

Important: Before you install a treatment system, call us for expert advice. *Before* you buy a system, ask how it will be installed and whether this costs extra. Get at least 3 price quotes. Learn the questions to ask. See Tip Sheet 16. *After* you buy a system, be sure to:

1. Keep all the paperwork and directions.
2. Learn what you must do to maintain the system and do it.

Learn more

Get Tip Sheets about choosing and buying water treatment systems at www.rivelltesting.org.