

Coliform bacteria are one of the most common water contamination problems in private water systems in Vermont and throughout the U.S. Coliform is a family of bacteria common in soil, plants, and intestinal tracts of humans and animals. The presence of these bacteria in drinking water is used to determine if it may be unsafe to drink. The Health Department recommends **testing for coliform bacteria every year**.

Laboratory Analysis

The laboratory test first analyzes your water sample for total coliform bacteria. If it is detected, the same sample is checked again, this time to determine whether the bacteria were from animal or human waste. The result will specifically state whether *E. coli* were detected.

Health Concerns

Coliform bacteria include a large group of bacteria that can be found in drinking water. Most types of coliform bacteria will not necessarily make you sick, but since these bacteria have found a way into your water system, other disease-causing bacteria could enter as well.

Disease-causing bacteria include fecal coliform, such as *E. coli*. Fecal coliform from human or animal waste in your drinking water can cause stomachaches, diarrhea and other gastrointestinal diseases.

Sources of Coliform Bacteria

Almost all surface waters contain some coliform bacteria. Groundwater in a **properly constructed and maintained well or spring should be free of coliform bacteria**. If these bacteria are found in a well or spring, it could indicate that surface water has somehow

leaked into the well or spring. This could happen from:

- Rain runoff or snowmelt making its way into the well or spring through cracks in ledge outcroppings, gravelly soil or sandy soil
- Pooling of rain runoff or snowmelt around the well or spring casing if the well or spring cover is not watertight, or if the pipe leading to the house is not properly installed
- Poor construction or cracks in the well or spring casing

Other sources of contamination are from:

- Insects, snakes, mice or other animals getting into the well or spring
- Dead-end pipes in household plumbing
- Improperly maintained treatment devices

If you suspect contamination from a septic system or animal manure, you should also have your water tested for nitrate and chloride.

Take Precautions

If your drinking water is contaminated with bacteria:

- Boil for one minute all water to be used for drinking, cooking, washing fruits and vegetables, brushing teeth, and making ice cubes, baby formula and concentrated juices.
- Let dishes dry thoroughly before use.
- Use for bathing, but make sure children do not drink water by sucking on washcloths or sponges.

Follow these precautions until follow-up test results show absence of bacterial contamination. **Note: Licensed restaurants and other facilities have additional requirements.**

How to Treat Your Water

If you have bacteria in your water, we recommend that you:

1. Submit a second sample to confirm the initial result. Also, if you had a presence/absence test done, you may consider asking the lab to count the bacteria in your water.
2. Visually inspect your well and water system and make any repairs. Look for leaks, unmortared joints, loose caps, ripped vent screens in the well cap, etc. Try to find any sources of bacterial contamination in the area surrounding the well.
3. Disinfect your well once repairs have been made.
4. Retest your water two to three days after the smell of chlorine is gone.

If problems continue:

- Consider getting the well professionally inspected by a well contractor. They can clean the well or run a camera down to find cracks or other issues. This is generally recommended every ten years.
- Consider permanent treatment for your water supply if you have disinfected several times and a well inspection does not find the cause of the contamination. Make sure any treatment device is certified by the National Sanitation Foundation (NSF).

Permanent treatment options include:

- A chlorinator, which injects exact amounts of chlorine into your plumbing system when the water is being pumped to the home
- Ultraviolet (UV) light treatment that meets NSF Standard 55
- A filter that meets NSF Standard 53 and is 1 micron (absolute), which is approved to remove disease-causing bacteria.

More Information

To watch a video of potential problems with your well and suggested solutions, visit: healthvermont.gov/water/coliform-bacteria.

For more information and instructions on disinfecting your well, visit: healthvermont.gov/water/disinfection.

If you have additional questions, contact the Drinking Water Program at 800-439-8550.

To order test kits, contact the Health Department Laboratory at 800-660-9997.