

# Total Coliform & E. Coli in Private Well Drinking Water

## Background Information:

Total coliform bacteria are commonly found in the environment, including in soil, vegetation, and water. Although total coliform bacteria are usually harmless, identifying total coliform in your drinking water may indicate a problem. This may include a failing water treatment system, contamination of the source water, or issue with your well or well cap (see below). These issues could lead to contamination from other harmful bacteria such as fecal bacteria or *Escherichia coli* (*E. Coli*).

**Total coliform is colorless, odorless, and tasteless in drinking water, and therefore, testing your water is the only way to detect the presence of harmful bacteria.** You should test for bacteria annually.

## Sources of Bacterial Contamination:

Common sources of contamination include surface water runoff that leaches into groundwater from:

- Agricultural sites;
- Improperly maintained septic systems;
- Concentrated wildlife habitats.

Private wells may be vulnerable to bacterial contamination because of the following:

- Damaged or cracked well casing;
- Unsealed or loose well cap;
- Poorly constructed well;
- Location of well (e.g., located in a depression that collects surface water runoff).

## Health Effects:

- Exposure to harmful bacteria in drinking water can lead to symptoms such as **nausea and vomiting, abdominal cramping, diarrhea, and loss of appetite.**

## Next steps if you have a positive test result:

- If your water tests positive for total coliform (+) and negative for *E. Coli* (-), you should retest again within the week and again six months later.
- If you have reoccurring total coliform positives (+) or have a single *E. Coli* positive (+) test, you should identify and correct possible sources of contamination. This may include removal of surface contamination sources or well construction defects. Alternatively, you can install water treatment. You may need to consult a well professional.

## Water Treatment for Bacterial Contamination:

Water treatment options include:

- **Ultraviolet (UV) light** – water is exposed to UV radiation to kill bacteria
- **Ozone** – a highly reactive gas that kills bacteria and some viruses

Once water treatment is installed, make sure to properly maintain treatment and follow the manufacturer's instructions to ensure your water treatment is working effectively. Boiling your drinking water for at least one minute will kill bacteria in the water; however, this may not be a feasible long-term solution.

- **Shock chlorination** (disinfection of a well through the use of high concentrations of chlorine for at least 12-24 hours) may be appropriate if the source of contamination is likely a one-time event (e.g., extreme flooding event, a nearby well drilled). A professional can help ensure this is done safely and correctly.