

# What to do if Coliform Bacteria is Present In a Well Water Sample

- *Don't panic.*
- *Don't rush into expensive repairs or water treatment.*
- *Don't drink the water without treating it until you find and fix the problem.*

*Coliform* is a large group with many different kinds of bacteria. Most Coliform bacteria are harmless. Various types of Coliform live in the soil and even on surfaces in your home, but they do not occur naturally in groundwater. If Coliform bacteria (sometimes reported as Total Coliform) are found in your well water, it is an indication that disease-causing bacteria could get in the same way.

If any Coliform bacteria are found, the lab does a second test to look for the special sub-group of Coliform that live in the guts of mammals and birds. This test is for *E. coli* or **Fecal Coliform**. These bacteria indicate that your well water has come into contact with animal waste—a very high risk for transmitting disease.

*Some common reasons for Coliform bacteria in well water samples are described below. Figure out the reasons for the sample results, fix the problem, and retest before drinking the water.*

- 1. Problems with the top of the well.** Is the cap loose? Are there any open holes in the cap? Are there cracks or holes in the well pipe? If you find any of these problems, this could be the source of bacteria. **FIX** the problem, then shock chlorinate the well. Test again before using the water.
- 2. Work was done recently on the well, pump, or plumbing system.** If the water system was not disinfected after the work, this may be your source of bacteria. Shock chlorinate your water system and test the water again.
- 3. Water standing next to the well.** If the area around the well pipe (casing) gets wet, this water may be causing your problem. Make sure that runoff water does not reach the well. The presence of bacteria also means that there may be problems with the grout seal around the well pipe. If you can't find any other explanation for the bacteria, contact a well contractor to advise you on repairing the grout seal.

**4. The sample was contaminated in the collection process.** Common problems include: (a) A hose, aerator screen, filter or other attachment on the faucet. (b) Accidentally touching the inside of the lid or the top of the bottle. (c) Not running the water 3-5 minutes before collecting it. Carefully collect another sample and retest. Use rubbing alcohol on a clean paper towel to wipe the faucet before letting the water run for 3-5 minutes.

**5. A movable faucet.** Sometimes bacteria grow at the swivel point. This is not harmful, but still shows up in the test. If the sample was from a movable faucet, do the test again using another faucet.

**6. The well is shallow, especially if near a stream or pond.** The well may be drawing water from the surface. To avoid bacteria in drinking water: (a) Use either a UV, chlorine or ozone water-treatment system, or (b) find another source of water, such drilling deeper well.

**7. Storage tank or pipes that are not water tight.** Make sure there is no way for surface water to enter your drinking water system.

**8. Old, unused wells.** Old wells in the area may be draining bacteria into the groundwater. Check with a well contractor about sealing up unused wells.

**9. Septic system or animal waste close to the well.** This is a problem only if Fecal Coliform or *E. coli* was found. Check for other problems described above. Bacteria need a way to get into the water system which needs to be fixed.

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**OSU WELL WATER PROGRAM**  
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## Drinking Water Facts....

*Use the following table to interpret your well water test results.*

Nitrate Level, ppm (parts per million)	Interpretation
0-10	Safe for humans and livestock. However, concentrations of more than 4 ppm are an indicator of possible pollution sources and could cause environmental problems.
11-20	Generally safe for human adults and livestock. Not safe for infants because their digestive systems cannot absorb and excrete nitrate.
21-40	Should not be used as a drinking water source but short-term use acceptable for adults and all livestock unless food or feed sources are very high in nitrates.
41-100	Risky for adults and young livestock. Probably acceptable for mature livestock if feed is low in nitrates.
Over 100	Should not be used as drinking water for humans or livestock.



### *What can I do to reduce nitrate in my drinking water?*

The best way to reduce nitrate in your drinking water is to identify any potential sources of nitrate on your property and find ways to manage those sources. A faulty septic system, fertilizers, and animal wastes are common sources of nitrate. Make sure your well head is properly located and has an effective seal.

Other options for managing nitrate include:

- If your well is contaminated by high levels of nitrate (10 ppm or above), infants and pregnant or nursing women should stop drinking well water. If you are using infant formula, make sure that it is prepared with bottled water, or use pre-mixed formula.
- Reverse osmosis, distillation, or ion exchange systems can all be used to treat water to remove nitrate. However, these treatment systems are expensive, and require careful maintenance for effective operation.

Boiling water does not help because it actually concentrates the nitrate. Charcoal filters, water softeners, or use of chlorine do nothing to remove nitrate from water.

- If excessive nitrates are found, monitor nitrate levels at least twice per year (once in the winter, and once in the summer) and keep records. To protect the health of your family, annual water tests should also be made for bacteria.
- Water containing high nitrate levels can be safely used for bathing, cleaning dishes, washing laundry, or other uses where water is not ingested.