

If your water test indicates the presence of total coliform or E. coli bacteria and a sanitary survey does not indicate any obvious source of contamination you should consider giving your well a chlorine shock. This can clear up an accidental one time infection. The information below is copied from a sheet prepared by the Department of Health of the State of New York.

## Disinfection of Small Water Supply Wells and Distribution Systems

The location and construction of a well are important considerations for establishing a safe water supply. However, routine repairs and maintenance are needed to help keep the supply safe. Shock chlorination is an essential procedure to help maintain a safe water supply. The following describes the equipment and steps you will need to follow to successfully disinfect your water supply system. This procedure should be used prior to start of operations at seasonal facilities, and annually at year-round facilities.

**Equipment you will need includes:**

- a clean water hose to reach from the closest outside faucet to well
- a clean container (for storing the sanitary well seal)
- standard household bleach (5.25% sodium hypochlorite solution); use bleach that is unscented
- a wrench to remove the well cap

**Procedure:**

1. Bypass your water treatment equipment (if present). Follow the manufacturer's recommendation for cleaning water treatment equipment at this time.
2. Determine the depth of water in the well and use the table and formula below to determine the volume of bleach needed to obtain a 50 ppm chlorine solution in the well water:

Drilled Well Diameter	Multiplier	Shallow Well Diameter	Multiplier
4 inches	0.084	2 feet	3.008
6 inches	0.188	3 feet	6.786
8 inches	0.334	4 feet	12.03

**Dose (Volume of Bleach in Ounces) = Depth of Water in Well (feet) x Multiplier**

3. Remove the sanitary well seal.
4. Pour the correct chlorine dose into the well.
5. Attach a hose to an outside faucet (must be located after the pressure tank).

6. Circulate the water from the well through the plumbing, hose, and back to the top of the well by opening the faucet supplying the hose.
7. After a strong chlorine smell is detected in the water from the hose, slowly rotate the discharge end of the hose around the inside of the well casing and down along the drop pipe to the pump. (This allows the chlorine solution to wash down the interior walls of the well casing, the exterior of the pump drop line, and the pump wiring.)
8. Continue this wash with the chlorinated water for at least 15 minutes. Allow the hose to run continuously into the well while you proceed to disinfect the plumbing system.
9. Open each faucet until a strong chlorine smell is detected. Don't forget outside faucets, washing machines, icemakers, etc.
10. Shut off all taps and the recirculation hose.
11. Replace the sanitary well seal.
12. Allow the chlorinated water to remain in the system (refrain from water use) for at least 8 hours, and preferably overnight.
13. Connect the hose to an outside faucet and flush the chlorinated water to an innocuous area (not into a septic system). Flush until chlorine can no longer be smelled.
14. Repeat flushing at each faucet in the system.
15. Place water treatment equipment back into service.
16. A bacteriological analysis can be performed when chlorine is no longer present.
17. Please remember that any new works (repairs or improvements) must be properly disinfected.

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*Our comments on the Department of Health instructions:*

*\* Wait about a week before you retest the water supply for bacteria. If the condition was a temporary one and your system is tight, the test will come back negative for the bacteria. If there is a problem with ongoing re-infection of the system the test will come back positive. Although this is not welcome news, you need to be aware that it is happening. At this point you may want to consider conferring with your local health officer and may want to consider installing a home disinfection system.*

*\* When you dispose of the chlorinated water you've been using to disinfect your system remember that it is mildly toxic. Do not put it into your septic system as it may destroy the bacteria and fungi that make it function. Do not drain it out on your lawn or by any vegetation you want. Do not let it enter any creeks or temporary streams as it will poison the creatures that live there. Perhaps the best solution is to let it run out onto a driveway. The chlorine will break down fairly quickly when exposed to the air and sunlight.*