

# PROTECT YOUR HEALTH AFTER A FLOOD - Water Quality & Health Considerations

If your household is served by a private well and that well is reached by the floodwaters, it will need to be tested and disinfected after the waters recede. Below, you'll find basic details about treating wells. However, specific questions and concerns about testing the quality of your well water should be directed to the Atlantic County Division of Public Health.

**Some basic health guidelines to follow after a flood:**

## **Water for Drinking, Cooking, and Personal Hygiene**

Safe water for drinking, cooking, and personal hygiene includes boiled, bottled, or treated water. Remember:

- Do not use contaminated water to wash your hands, wash dishes, brush your teeth, wash and prepare food, make ice, or make baby formula. If possible, use baby formula that does not need to have water added. If you have it, use an alcohol-based hand sanitizer to wash your hands.
- If you use bottled water, be sure it came from a safe source. If you do not know that the water came from a safe source, you should boil or treat it before you use it. Use only bottled, boiled, or treated water until your supply is tested and found safe.
- Boiling water, when practical, is the preferred way to kill harmful bacteria and parasites. Bringing water to a rolling boil for 1 minute will kill **most** organisms.
- When boiling water is not practical, you can treat water with chlorine tablets, iodine tablets, or unscented household chlorine bleach (5.25% sodium hypochlorite):
  - If you use chlorine tablets or iodine tablets, follow the directions that come with the tablets.
  - If you use household chlorine bleach, add 1/8 teaspoon (~0.75 mL) of bleach per gallon of water if the water is clear. For cloudy water, add 1/4 teaspoon (~1.50 mL) of bleach per gallon. Mix the solution thoroughly and let it stand for about 30 minutes before using it.

**Note: Treating water with chlorine tablets, iodine tablets, or liquid bleach will not kill parasitic organisms. Only boiling can do this.**

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## Protect Your Health After a Flood

Use a bleach solution to rinse water containers before reusing them. Use water storage tanks and other types of containers with caution. For example, fire truck storage tanks and previously used cans or bottles may be contaminated with microbes or chemicals. Do not rely on untested devices for decontaminating water.

### **Is my well water safe to drink?**

Well water, like water from public water companies, may become contaminated as a result of flooding. Atlantic County residents with questions about if their wells may have been affected and what disinfection procedures they should use should see the recommendations below. Also, depending on flood conditions, it might be necessary to check with the Atlantic County Division of Public Health to determine what steps should be taken in specific geographic areas.

### **What about water from a public water company?**

Recent flooding due to a hurricane, northeastern storm or other causes may compromise or contaminate some water supplies, including the water coming from large public water companies. In these incidences, state and local officials usually monitor water quality very carefully to ensure that any potential contaminants are identified quickly and everyone is informed appropriately. In addition, water companies normally issue official advisories stating that consumers should boil or treat their water, use bottled water or other alternatives until water quality returns to a safe level. If a public water company serves you, call your local water supplier to determine if the water is affected and if you need to boil or treat the water before using it for clean up and consumption.

### **What's the proper way to disinfect water so it's safe to drink?**

The preferred method of treatment is boiling. **Boiling water kills harmful bacteria and parasites.** Bring water to a full ROLLING boil for at least 1 minute to kill most infectious organisms. If boiling water is not possible (power outages) potentially contaminated water may be treated with chlorine or iodine tablets. However, this treatment will not kill parasitic organisms. To disinfect with chlorine mix six drops (1/8 teaspoon) of unscented, ordinary household chlorine bleach (5.25 percent sodium hypochlorite) per gallon of water. Mix the solution thoroughly, and let stand for about thirty minutes. To disinfect using iodine put eight drops of 2% tincture of iodine in one quart of water. Allow the water to stand at least 30 minutes before it is used.

### **What infectious organisms might be present in contaminated water?**

Disease transmission from contaminated water occurs principally by ingesting water. The major organisms of concern are parasites such as Giardia and Cryptosporidium, and bacteria such as Shigella and E. coli. These organisms primarily affect the gastrointestinal system, causing diarrhea, abdominal cramps, nausea, and vomiting with or without fever. Most of these illnesses are not usually serious or life threatening, except in the elderly or those immunocompromised. If your hands have touched

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contaminated water, keep them away from your face. **You shouldn't eat, smoke or wipe your face until you have washed your hands in sanitary water.** Disease organisms from contaminated water can enter your body orally.

**What if I've already consumed potentially contaminated water?**

Even if you consume potentially contaminated water from either a public water system or a private well before you were aware of the boil water advisory, the likelihood of becoming ill is very low. Anyone experiencing symptoms of gastroenteritis, such as diarrhea, nausea, vomiting, abdominal cramps, with or without fever, should seek medical attention.

**In what other activities should I avoid using potentially contaminated water?**

Contaminated water should NOT be used for drinking, making prepared drinks, ice making, brushing teeth, washing food or preparing food, or for pets. Water may be added to foods that will undergo a rolling boil for at least 1 minute.

**Is potentially contaminated water safe for washing dishes or clothes?**

Yes, but try to use a dishwasher if possible, and run on dry cycle or final rinse that exceeds 113 degrees Fahrenheit for 20 minutes, or 122 degrees Fahrenheit for 5 minutes. If you have to wash dishes by hand, be sure to rinse dishes for a minute in dilute bleach (1 tablespoon per gallon of water). It is safe to wash clothes in potentially contaminated water.

**Is potentially contaminated water safe for bathing and shaving?**

It is not recommended that you shower, bathe or shave with potentially contaminated water as it could introduce the risk of swallowing the water. This is particularly a concern for children and disabled individuals who could accidentally ingest a quantity of water. Though the risk of illness is minimal, individuals who have recent surgical wounds, are immuno-suppressed, or suffering from chronic illness may want to consider using bottled or boiled water for cleansing until the water quality can be assured again as safe.

**How should I wash my hands during a boil water advisory period?**

During an emergency period, vigorously wash your hands with soap and boiled, treated, or bottled water. If you cannot boil the water, be sure the water you use comes from a safe alternative source. If possible, use a waterless hand sanitizer.

**Do I need any vaccinations if I have been exposed to flood water?**

There is not usually a need to give vaccines during flood-related events. In some cases (see below) a tetanus booster may be indicated.

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Tetanus: Individuals exposed to flood waters with an open wound (not minor cuts and abrasions) who have not had a tetanus booster shot in 10 years should receive a tetanus booster. Mass vaccination of the general public and emergency responders is not recommended.

Hepatitis A, typhoid and cholera: Since these diseases are unlikely to be transmitted under these circumstances, vaccination against them is not indicated.

**Is it safe for me to participate in the cleanup (basements, offices, etc.)?**

It is recommended that individuals participating in the cleanup of contaminated water sites protect themselves with protective clothing, including boots and gloves that are waterproof, and guard against injury by sharp objects.

**Disinfecting Wells**

If you suspect that your well may be contaminated, contact the Atlantic County Division of Public Health for specific advice. **Here are the department’s recommended procedures for disinfecting wells.**

**To Disinfect Potable Wells**

Disinfection is accomplished most effectively with a chlorine-containing chemical. Any common household liquid bleach that contains approximately five (5) percent “active” ingredient- usually sodium hypochlorite- is the most convenient chemical to use. The following table shows the proper amount of liquid bleach to be added directly to the well. All taps should be opened until chlorine odor is detected, and then held overnight or at least for several hours. The entire system should then be flushed out prior to reuse.

*Important:*

All electrical power to well pump should be shut off prior to removing well cap.

Required: Volume of five (5) percent bleach solution.  
(Disinfection strength approximately 50 parts per million)

<u>Diameter of Well</u>	<u>Depth of Well</u>					
	20ft	30ft	40ft	50ft	100ft	200ft
Up to 6”	4oz	6oz	8oz	10oz	20oz	32oz
6”-12”	16oz	24oz	32oz	2qt	3qt	4qt
12”-24”	2qt	3qt	4q	—	—	—
24”-48”	2gal	3gal	4gal	—	—	—

The table above represents bleach volume in liquid ounces (oz).

Note: 32 ounces (oz) = 1 quart (qt). A standard measuring cup = 8 ounces (oz).

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**For additional information:**

Contact the Atlantic County Division of Public Health at 609-645-5971 or visit their website at: [www.aclink.org](http://www.aclink.org).

Information about flood cleanup and health considerations can also be found at the New Jersey Department of Health and Senior Services at:  
[http://www.state.nj.us/health/iep/mold\\_links.shtml#Flood\\_Clean-up](http://www.state.nj.us/health/iep/mold_links.shtml#Flood_Clean-up)

An additional recommended source is the Centers for Disease Control at:  
<http://www.bt.cdc.gov/disasters/hurricanes/recovery.asp>

\*Adapted from County of Hunterdon  
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