

# Public Education on Lead in Drinking Water

## Introduction

*This brochure explains the simple steps you can take to protect you and your family by reducing your exposure to lead in drinking water.*

The United States Environmental Protection Agency (EPA) and Brunswick County Public Utilities Department are concerned about lead in your drinking water. **Although most homes have very low levels of lead in their drinking water, some homes constructed prior to 1987 have lead levels above the EPA action level of 15 parts per billion (ppb), or 0.015 milligrams of lead per liter of water (mg/L).**

Under Federal law we are required to have a program in place to minimize lead in your drinking water. This program has been in place for over 12 years and includes corrosion control treatment, source water treatment, and public education.

If you have any questions about how we are carrying out the requirements of the lead regulation, please give us a call:

Northwest Water Treatment Plant  
(910) 371-3490

Highway 211 Water Treatment Plant  
(910) 253-5797

Brunswick Public Utilities Administration  
(910) 253-2657



## Health Effects of Lead

Lead is a common metal found throughout the environment in lead-based paint; air; soil; household dust; food; certain types of pottery, porcelain, pewter; and water. Lead can pose a significant risk to your health if too much of it enters your body. Lead builds up in the body over many years and can cause damage to the brain, red blood cells, and kidneys. The greatest risk is to young children and pregnant women. Amounts of lead that won't hurt adults can slow down normal mental and physical development of growing bodies. In addition, a child at play often comes into contact with sources of lead contamination—like dirt and dust—that rarely affect an adult. It is important to wash children's hands and toys often and to try to make sure they only put food in their mouths.

## Lead in Drinking Water

Lead in drinking water, although rarely the sole cause of lead poisoning, can significantly increase a person's total lead exposure, particularly the exposure of infants who drink baby formulas and concentrated juices that are mixed with water. The EPA estimates that drinking water can make up 20% or more of a person's total exposure to lead.

Lead is unusual among drinking water contaminants in that it seldom occurs naturally in water supplies like rivers and lakes. Lead enters drinking water primarily as a result of the corrosion, or wearing away, of materials containing lead in the water distribution system and household plumbing. These materials include lead-based solder used to join copper pipe, brass and chrome-plated brass faucets, and in some cases, pipes made of lead that connect your house to the water main (service lines). *In 1986, Congress banned the use of lead solder containing greater than 0.2% lead and restricted the lead content of faucets, pipes, and other plumbing materials to 8.0%.*

When water stands in lead pipes or plumbing systems containing lead for several hours or more,

the lead may dissolve into your drinking water. This means the first water drawn from the tap in the morning, or later in the afternoon after returning from work or school, can contain fairly high levels of lead.

## Steps You Can Take in the Home to Reduce Exposure to Lead in Drinking Water

▶ Despite our best efforts mentioned earlier to control water corrosivity and remove lead from the water supply, lead levels in some homes or buildings can be high. To find out whether you need to take action in your own home, have your drinking water tested to determine if it contains excessive concentrations of lead. Testing the water is essential because you cannot see, taste, or smell lead in drinking water. Some local laboratories that can provide this service are listed at the end of this publication. For more information on having your water tested, call:

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▶ If a water test indicates that the drinking water drawn from a tap in your home contains lead above 15 ppb, then you should take the following precautions:

1. Let the water run from the tap before using it for drinking or cooking any time the water in a faucet has gone unused for more than 6 hours. The longer water resides in your home's plumbing the more lead it may contain. Flushing the tap means running the cold water faucet until the water gets noticeably colder, usually about 15-30 seconds (approximately ½ gallon). If your house has a lead service line to the water main, you may have to flush the water for a longer time, perhaps one minute (approximately 1 gallon) before drinking.

Although toilet flushing or showering flushes water through a portion of your home's plumbing system, you still need to flush the water in each faucet before using it for drinking or cooking.

Flushing tap water is a simple and inexpensive measure you can take to protect your family's health. It usually uses less than two gallons per day (considering two flushes per day with two faucets at approximately ½ gallon per flush) of water and costs less than \$0.25 per month.

To conserve water, fill a couple of bottles for drinking water after flushing the tap, and whenever possible use the first flush water to wash the dishes or water the plants.

If you live in a high-rise building, letting the water flow before using it may not work to lessen your risk from lead. The plumbing systems have more, and sometimes larger, pipes than smaller buildings. Ask your landlord for help in locating the source of the lead and for advice on reducing the lead level.

2. Try not to cook with or drink water from the hot water tap. Hot water can dissolve more lead more quickly than cold water. If you need hot water, draw water from the cold tap and heat it on the stove.
3. Remove loose lead solder and debris from the plumbing materials installed in newly constructed homes, or homes in which the plumbing has recently been replaced, by removing the faucet strainers from all taps and running the water 3-5 minutes. Thereafter, periodically remove the strainers and flush out any debris that has accumulated over time.
4. *If your copper pipes are joined with lead solder that has been installed illegally since it was banned in 1986, notify the plumber who did the work and request that he or she replace the lead solder with lead-free solder. Lead solder looks dull gray and when scratched with a key looks*

shiny. In addition, notify your State Division of Environmental Health, Public Water Supply Section, at (919) 733-2321 about the violation.

5. Determine whether or not the service line that connects your home or apartment to the water main is made of lead. The best way to determine if your service line is made of lead is by either hiring a licensed plumber to inspect the line or by contacting the plumbing contractor who installed the line. You can identify the plumbing contractor by checking the county, town, or city board's record of building/plumbing permits that should be maintained in the files of the agency that was responsible for issuing building/plumbing permits for your residence (town, city, or county). A licensed plumber can check to see if your home's plumbing contains lead solder, lead pipes, or pipe fittings that contain lead. The public water system that delivers water to your home should also maintain records of the materials located in the distribution system.

If the service line that connects your dwelling to the water main contributes more than 15 ppb to drinking water, we are required to replace the portion of the line we own. If the line is only partially owned by the Brunswick County Public Utilities Department, we are required to provide the owner of the privately owned portion of the line with information on how to replace the privately owned portion of the service line and offer to replace that portion of the line at the owner's expense. If we replace only the portion of the line that we own, we also are required to notify you in advance and provide you with information on the steps you can take to minimize exposure to any temporary increase in lead levels that may result from the partial replacement, to take a follow-up sample at our expense from the line within 72 hours after the partial replacement, and to mail or otherwise provide you with the results of that sample within three business days of receiving the results.

Acceptable replacement alternatives include copper, steel, iron, and plastic pipes.

6. Have an electrician check your wiring. If ground wires from the electrical system are attached to your pipes, corrosion may be greater. Check with a licensed electrician or your local electrical code (town, city, or county responsible for issuance of electrical permits) to determine if your wiring can be grounded elsewhere. DO NOT attempt to change the wiring yourself because improper grounding can cause electrical shock and fire hazards.
  - ▶ The steps described above will reduce the lead concentrations in your drinking water. However, if a water test indicates that the drinking water coming from your tap contains lead concentrations in excess of 15 ppb after flushing or after we have completed our actions to minimize lead levels, then you may want to take the following additional measures:
    1. Purchase or lease a home treatment device. Home treatment devices are limited in that each unit treats only the water that flows from the faucet to which it is connected, and all of the devices require periodic maintenance and replacement. Devices such as reverse osmosis systems or distillers can effectively remove lead from your drinking water. Some activated carbon filters may reduce lead levels at the tap; however, all lead reduction claims should be investigated. Be sure to check the actual performance of a specific home treatment device before and after installing the unit.
    2. Purchase bottled water for drinking and cooking.

- ▶ You can consult a variety of sources for additional information. Your family health care provider or pediatrician can perform a blood test for lead and provide you with information about health effects of lead. State and local government agencies that can be contacted include:

- *Brunswick County Public Utilities Customer Service* can provide you with information about your community's water supply: (910) 253-2655
- *Brunswick County Public Utilities Administration* can provide you with information about your community's water supply: (910) 253-2657
- *Brunswick County Central Permitting* or your local permitting agency can provide you with information about building permit records that should contain the names of plumbing contractors who plumbed your home: (910) 253-2055
- *Brunswick County Health Department* can provide you with information about the health effects of lead and how you can have your child's blood tested: (910) 253-2260

The following is a list of some state-approved laboratories in the area that you can call to have your water tested for lead:

Element One, Inc.: (910) 793-0128

Environmental Chemist, Inc.: (910) 392-0223

Environment 1: (252) 756-6208

For other laboratories in the Wilmington area look in the Yellow Pages under "Laboratories;" or access the listing of certified laboratories at <http://slphreporting.ncpublichealth.com/EnvironmentaSciences/Certification/CertifiedLaboratory.asp>.

Be sure to confirm that the laboratory you contact is certified by the State of North Carolina to test for lead in drinking water.

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