

# Lead and Copper in School Drinking Water

Holyoke Public Schools

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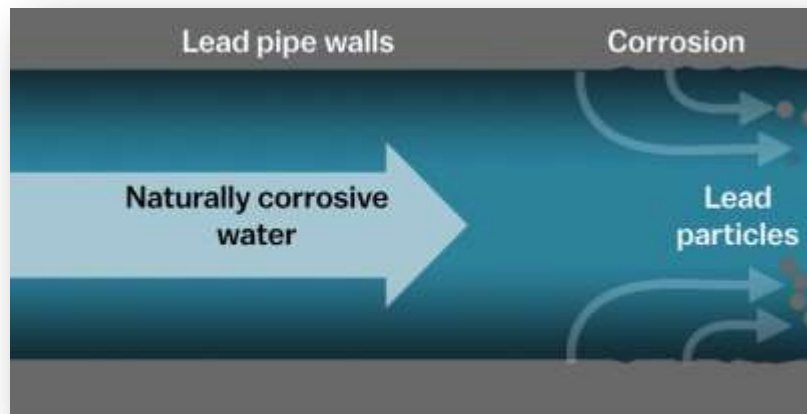
# Why is drinking water being tested at schools?

- Surveillance effort to identify lead and copper in drinking water
- Samples from water fountains, sinks, and faucets



# How does lead and copper get into drinking water?

- Drinking water sources in MA are typically free of copper and lead
- These contaminants enter water through lead pipes or plumbing with copper and lead parts
- Highest levels occur when water stands in pipes for hours or when hot water draws contaminants out of pipes and fixtures



# How do lead and copper get into someone's body?

- Low levels are present in food, drinking water, soil, dust, and air
- Everyone is exposed to small amounts from these sources
- It is not uncommon for individuals to have a low levels of lead in their body



# What if levels in the drinking water are high?

- Lead levels are considered high if they are over 15 micrograms per liter ( $\mu\text{g}/\text{L}$ ) or parts per billion (ppb)
- Copper levels are considered high if they are over 1,300 ppb
- Access to water at taps or fountains with high levels should be prevented and alternate sources of water or filters identified
- Levels can be reduced by replacing pipes, reducing corrosiveness, flushing, and other methods



# How can lead make someone sick?

- Lead can affect every organ system in the body
- Developing brains of infants, young children, and developing fetuses are at greatest risk
- Lead exposure should be reduced as much as possible



# How can copper make someone sick?

- Unlike lead, copper is essential to good health in small “trace” amounts
- We have a natural mechanism to maintain proper levels
- High levels cause nausea, vomiting, diarrhea, and stomach cramps
- Some individuals, like those with liver disease and Wilson’s disease, have trouble eliminating copper and these individuals are at greatest risk



# Is blood testing recommended?

- Blood testing is **not** recommended
- **It is unlikely that drinking water at schools would cause staff or children to have elevated levels of copper or lead in their blood**
- The most important thing to do is identify and remove the suspected sources





# Blood Lead Testing in Massachusetts

- Children are commonly screened for elevated levels of lead
- Child blood lead levels are tested at 9-12 months, ages 2 and 3, and sometimes at age 4, depending on where they live
- This approach helps identify lead poisoned children, and eliminate lead sources
- If your child has never been screened or you have specific health concerns - you should discuss this with your health care provider



Additional Information on blood lead screening is available from the Massachusetts DPH Childhood Lead Poisoning Prevention Program (**1-800-532-9571**) or **[www.mass.gov/dph/clppp](http://www.mass.gov/dph/clppp)**

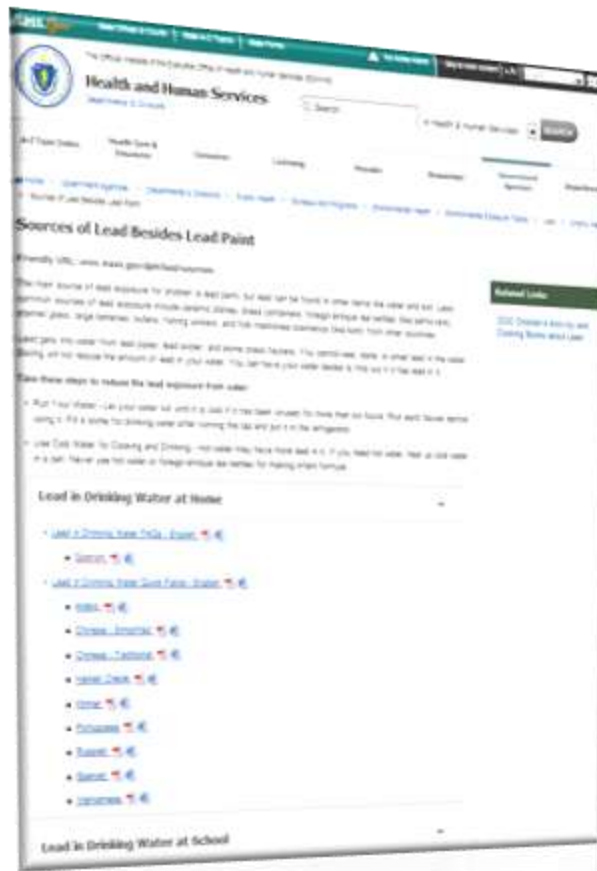
# How can I reduce exposure to lead at school?

- Let the water run for 1 minute before drinking from fountain or faucet
- Use cold water for drinking and cooking
- For hot water, heat cold water in the microwave or on stovetop
- Obey signs identifying water outlets that are not for drinking
- Use cold water to mix up baby formula, and warm formula to serve



# Where can I get additional information?

[www.mass.gov/dph/lead-source](http://www.mass.gov/dph/lead-source)



### Copper in Drinking Water FAQ for School and Childcare Facilities

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH | BUREAU OF ENVIRONMENTAL HEALTH

This fact sheet answers frequently asked questions about copper and health. How copper may get into the drinking water at your school or childcare facility, and how children, teachers, and staff can avoid exposure. Copper is a naturally occurring and essential nutrient for good health in low levels. Exposure to high levels of copper can harm health. Parents of infants and young children, pregnant women, and people with Wilson's disease or liver disease should be aware of possible health effects following exposure to their levels of copper and

stay. Our bodies have a natural mechanism to maintain the proper level of copper.

**WHAT IF COPPER LEVELS IN THE DRINKING WATER AT SCHOOL OR CHILDCARE ARE HIGH?**

If the copper levels are higher than the U.S. Environmental Protection Agency's (EPA) action

### Lead in Drinking Water FAQ for School and Childcare Facilities

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH | BUREAU OF ENVIRONMENTAL HEALTH

This fact sheet answers frequently asked questions about lead and health. How lead may get into the drinking water at your school or childcare facility, and how children, teachers, and staff can avoid exposure. Lead can be found in all parts of the environment. Although lead is found in nature, most exposure comes from human activities or use. Lead-based paint and lead-contaminated dust are the primary sources of exposure for children, infants, young children, and developing fetuses are most sensitive to the effects of lead because their body systems are not fully developed. Precautions should be taken to minimize lead exposure.

lead. Other less common sources of lead include some handmade jewelry and imported antique, horse remedies, tea, ivory, jewelry, and carved wood. Lead-based paint and lead-contaminated dust are the primary sources of exposure for children, but drinking water can be an important contributing source to overall exposure.

Since everyone is exposed to small amounts of lead in their daily life, it is not uncommon for a low level of lead to be present in someone's body.

#### HOW DOES LEAD GET INTO DRINKING WATER?

In Massachusetts, most drinking water sources from reservoirs and groundwater are lead free. When lead is present in water, it is typically due to the water flowing through lead pipes or plumbing in buildings with lead parts or solder. Service lines, which are the pipes that connect homes, schools, or other buildings to the water main, could have lead in them. Inside the school or facility, there may also be lead pipes, pipes connected with lead solder, or brass faucets or fittings containing lead. Lead levels are highest when the water has been sitting in lead pipes for several hours. Additionally, using hot water can draw lead out of pipes, solder or fittings, releasing it into the water.

#### HOW DOES LEAD GET INTO SOMEONE'S BODY?

Lead is present in typically low levels in a variety of drinking sources, such as food, drinking water, soil, dust, and air. Individuals are exposed to lead from eating food, drinking water, accidentally swallowing soil and dust, and from breathing in air that contains

#### IS IT SAFE TO BATHE IN WATER WITH ELEVATED LEVELS OF LEAD?

Yes. Lead is not easily absorbed through the skin. It is not a problem to wash hands, bathe, and/or shower in water containing lead.

#### WHAT IF LEAD LEVELS IN THE DRINKING WATER AT SCHOOL OR CHILDCARE FACILITIES ARE HIGH?

If the lead levels are higher than the Massachusetts Department of Environmental Protection (MassDEP) action level of 10 parts per billion (ppb), your school or childcare facility should work to determine the source. Once a school is aware of a water lead exceedance, they should prevent access to any tap or fountain above the action level and provide an alternate source of water. MassDEP can provide technical assistance to schools and childcare facilities with regard to testing and follow-up measures. There are a number of ways lead levels can be reduced in school drinking water, such as by replacing pipes and fixtures, reducing the corrosiveness of the water, or installing a flushing program. Your school or childcare facility should keep parents, teachers, and staff updated

### Lead in Drinking Water FAQ

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH | BUREAU OF ENVIRONMENTAL HEALTH

This fact sheet answers frequently asked questions about lead and health. How lead gets into your drinking water, and what you can do to protect yourself and your family from lead exposure. Lead can be found in all parts of the environment. Although it is naturally occurring, most exposure comes from human activities. Young children, infants, and pregnant women are most vulnerable to the effects of lead and precautions should be taken to minimize their lead exposure.

Most children come into contact with lead by being exposed to the paint in old houses. Street dirt paint that contains lead peels and cracks it creates lead dust and chips. Home renovation may also create significant amounts of lead dust and must be done with caution. Lead dust can be inhaled or get onto hands and toys. Lead contamination often occurs when children put their hands and toys in their mouths.

Since exposure is expected to small amounts of lead in their daily life, it is not uncommon for a low level of lead to be present in someone's body.

#### HOW DOES LEAD GET IN MY DRINKING WATER?

In Massachusetts, most drinking water sources

In Massachusetts, most drinking water sources

### Preguntas frecuentes sobre el contenido de plomo en agua potable

En esta hoja de información se responden preguntas frecuentes sobre el plomo y la salud. El plomo es un metal que puede estar presente en el agua potable y las medidas que usted puede tomar para protegerse y proteger a su familia de la exposición al plomo. El plomo puede encontrarse en todas partes en el ambiente. Si bien ocurre naturalmente, la mayor parte de la exposición proviene de actividades humanas. Los niños pequeños, los bebés y las mujeres embarazadas son más vulnerables a los efectos del plomo, y se deben tomar precauciones para minimizar su riesgo a la exposición.

#### ¿De qué manera ingresa el plomo al agua potable?

En Massachusetts, la mayoría de las fuentes de agua potable, como lagos y aguas subterráneas, no tienen plomo. Si hay plomo en el agua, generalmente se debe al agua que corre por tuberías o plomería de plomo con juntas o soldaduras de plomo en las tuberías. Los conectores a la red, que son las tuberías que conectan su casa con la tubería maestra, pueden tener plomo. Dentro de su casa, es posible que tenga tuberías de plomo, tuberías de cobre con soldaduras de plomo, o plomo o accesorios de bronce que tienen plomo. Los niveles de plomo son más altos cuando el agua ha estado en tuberías de plomo durante varias horas. El agua potable proviene que el plomo ingresa al agua más rápidamente.

#### ¿De qué manera ingresa el plomo al organismo?

En muchos casos, la mayor exposición al plomo proviene de polvo de pintura de plomo, partículas de pintura y suelo contaminado con plomo. El plomo también puede ingresar al organismo al beber o comer con agua con plomo. Los niños pequeños absorben plomo con mayor facilidad que los adultos, y sus cuerpos pueden guardar plomo al dormir. Por esta razón, el plomo en el agua potable puede ser una fuente importante de exposición para algunos niños pequeños y bebés. Dimensionar con frecuencia su polvo.

#### Datos resumidos sobre la exposición al plomo

- Resumen general:**
- Los bebés, los niños pequeños y las mujeres embarazadas son especialmente vulnerables a los efectos nocivos de la exposición al plomo.
  - La mayor parte de la exposición al plomo se debe a inhalar o ingerir polvo de pintura con plomo.
  - La mayoría de las fuentes de agua potable en Massachusetts no tienen plomo, pero incluso beber plomo en el agua de un río, lago o embalse, incluso a niveles muy bajos, puede ser dañino.
- Medidas que se deben tomar:**
- Mantenga al niño de su casa lejos de la exposición al plomo y asegure que le realicen un análisis de detección de plomo a su hijo.
  - Averigüe si su casa tiene pintura con plomo o deterioramiento de plomo.
  - Use agua fría para beber y cocinar.
  - Llame al Departamento local de agua para averiguar sobre la lista de servicios de su lugar y para recibir el agua.

# Who can I contact with additional questions?

**For questions about health effects from potential exposure to lead and copper, you may contact the:**

Massachusetts Department of Public Health  
Bureau of Environmental Health  
**(617) 624-5757**

[DPHdrinkingwater@state.ma.us](mailto:DPHdrinkingwater@state.ma.us)  
[www.mass.gov/dph/lead-source](http://www.mass.gov/dph/lead-source)



**If you have questions about specific symptoms, or urgent medical questions, you should consult with you healthcare provider.**

To find an adult specialist in environmental health, your healthcare provider may contact the **Association of Occupational and Environmental Clinics (AOEC)**

Toll Free: (888) 347-AOEC or **(888) 347-2632**

To reach a pediatric specialist in environmental health, your healthcare provider may contact the **Pediatric Environmental Health Specialty Unit (PEHSU)**

Toll Free: (888) CHILD-14 or **(888) 244-5314**