Lead

This sheet is about exposure to lead during pregnancy or while breastfeeding. This information is based on published research studies. It should not take the place of medical care and advice from your healthcare provider.

What is lead and where is it found?

Lead is a heavy metal. It can be found in many places, such as soil, water, cosmetics, children's & costume jewelry, old paint, ceramic glazes, plumbing, batteries, bullets, solders, and gasoline.

Lead can pass from pipes into drinking water (called leaching). When lead paint is sanded or stripped, it creates dust that contains lead. Living near metal smelters, landfills, mining areas, or hazardous waste sites could increase the chance for exposure to lead.

Traditional or folk medication (including Ayurvedic medicines) can contain high amounts of lead. Some types of candy can also contain lead. Some supplements have also been reported to contain lead.

Some hobbies and jobs can lead to higher levels of lead exposure. Examples include making ceramics, pottery, or jewelry, auto repair, printing, construction, stained glass work, art restoration, welding, finishing furniture, indoor target practice, or making bullets or fishing lures.

In 1978, the U.S. government banned the use of paint containing lead and the use of lead in gasoline around 1980. Even with attempts to limit sources of lead, lead can still be found in the ground and in water.

How does lead get into my body?

Lead gets into the body by breathing in lead dust or by swallowing lead particles. Only small amounts of lead get into the body through the skin. If you have been around lead, it is important to carefully wash your body, especially your hands, to keep lead from getting into your mouth. Since lead is found in many places in our environment, most people have small amounts of lead in their blood.

Where is lead found in the body?

When a person is exposed to lead over a long period of time or at a high level, the body will store lead in the bones and teeth, where it can stay for many years. During pregnancy and breastfeeding, lead can leave the bones and teeth and move back into the blood.

How can I lower my exposure to lead?

- Avoid exposure to any known sources of lead before and during pregnancy.
- If you are remodeling a home built before 1978, avoid removing lead paint yourself. Lead paint should be removed by certified professionals who are following safety procedures that protect you and your family from lead exposure.
- If you are living in a home built before 1978, wipe down windows and windowsills with a wet towel/rag and wet mop the floors to help remove lead dust.
- Check your water. Houses that use well water should have the water tested regularly for lead and other possible contaminants. Water from public sources is regularly tested for lead. You can get information about your drinking water from your local Board of Health.
- Eat a well-balanced diet. A diet poor in calcium, iron, zinc, vitamin C, vitamin D, and vitamin E has been associated with increased lead absorption.
- Take off or clean your work clothes and shoes before you go inside, so you don't bring lead into your home from dirt, job sites, or hobbies. If you can, keep your work clothes and shoes in a special spot outside the house.
- Wash your work clothes by themselves, not with the family's laundry.
- After doing anything that might expose you to lead, take a shower to wash any lead dust off your skin and hair.

Can lead in my body reach the pregnancy?
Lead can cross the placenta and reach the developing fetus. The amount of lead in the blood of the woman who is pregnant and the fetus is almost the same. It is not known how early lead can reach the fetus in pregnancy, but reports have documented lead in a fetus as early as the end of the first trimester.

How can I find out if I have lead in my body?
A blood lead test can be done to see how much lead is in your blood. However, this is not a routine blood test for all women who are pregnant. Talk with your healthcare provider about checking your blood lead level if:

- You are working with lead in your job or hobbies,
- You eat candies or take medication imported from other countries,
- You think there might be lead in your home (paint/pipes).

The Centers for Disease Control and Prevention (CDC) and American College of Obstetricians and Gynecologists (ACOG) recommend obstetric health care providers evaluate the risk of lead exposure for each individual patient and offer a blood test if a risk factor is present.

I am pregnant and had a lead test. Is there a level that I should be concerned about?
While most people will have some lead in their blood, levels greater than 5 micrograms per deciliter (mcg/dL) suggest that there is an exposure at home or in the workplace that needs to be addressed, and a search for the source of lead should be done.

I have been exposed to lead. Can it make it harder for me to get pregnant?
Studies have shown mixed results. Some studies suggest that lead levels that are too high or too low might make it harder to get pregnant. Other studies suggest that lead might not affect the ability to get pregnant.

Does lead increase the chance of miscarriage?
Miscarriage is common and can occur in any pregnancy for many different reasons. Multiple studies have reported a connection between high blood levels of lead during pregnancy and a higher chance of miscarriage.

Does lead increase the chance of birth defects?
Birth defects can happen in any pregnancy for different reasons. Out of all babies born each year, about 3 out of 100 (3%) will have a birth defect. We look at research studies to try to understand if an exposure, like lead, might increase the chance of birth defects in a pregnancy. Studies on lead exposure during pregnancy have not shown an increased chance for birth defects

Does lead increase the chance of other pregnancy-related problems?
High lead levels during pregnancy can increase the chance for low birth weight (weighing less than 5 pounds, 8 ounces [2500 grams] at birth), preterm delivery (birth before week 37), poor growth, and preeclampsia (high blood pressure). Problems with organs (such as the kidneys) that can lead to seizures (called eclampsia), and stillbirth have also been reported.

Does lead affect future behavior or learning for the child?
Lead exposure during pregnancy can negatively affect the fetal brain. This can cause future learning and behavior problems for the child. Studies have reported that children exposed to lead during pregnancy might have more difficulty with reasoning, remembering, awareness, and language, However, limitations of these studies (differences in environmental factors and different blood lead levels across groups) make it difficult to know when and how often lead exposure during pregnancy can affect future behavior or learning.

Breastfeeding and lead exposure:
Breastfeeding recommendations can differ based on the amount of lead in the mother’s blood. In general, women with blood lead levels under 40 mcg/dL can continue breastfeeding. However, the infant’s blood lead levels might also

need to be checked. Lead levels in breast milk are usually lower than the levels in the mother's blood. If lead is detected in a blood test, there could be an exposure at home or in the workplace that needs to be addressed.

Women with a blood lead level higher than 40 mcg/dL should not breastfeed and are advised to pump and discard their breastmilk until their blood lead level is lower than 40 mcg/dL.

For infant formulas, if the water you use to mix formula has lead, use bottled or distilled water or, if using tap water, allow it to run for 3 minutes before using.

Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man has exposure to lead, can it make it harder to get a partner pregnant or increase the chance of birth defects?

Lead in the body can reach the sperm. High levels of lead might cause changes in the shape, size, number, and movement of the sperm. This might impact fertility (ability to get a woman pregnant). People who work with lead can bring lead dust home on their clothes, shoes, or other items. If a woman who is pregnant handles these items, such as when doing laundry, there could be direct exposure to lead. For more information about paternal exposures, please see the MotherToBaby fact sheet at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here for references.

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