[00:00:07.290] - EH Nexus Host

Welcome, everyone and thank you for joining today's episode of the Centers for Disease Control and Prevention's Environmental Health Nexus podcast, where we talk about environmental health topics. We are joined today by Dr. Paul Allwood, Chief of CDC's Lead Poisoning Prevention and Surveillance Branch. During this episode, we will explore the dangers of lead exposure, explore health effects on children and adults, and most importantly, explore the steps individuals and communities can take to prevent and mitigate lead exposure.

[00:00:44.030] - Dr. Paul Allwood

It is a pleasure to be here. Good morning.

[00:00:46.970] - EH Nexus Host

To give an overview, lead is a natural occurring metal that can cause negative health effects, especially in children. Lead poisoning or lead toxicity refers to exposures to lead that result in illness and require immediate medical attention. It is used to describe cases when there are several health effects related to high blood lead levels. If blood lead levels are 45 micrograms per deciliter or greater, health care providers may recommend medication to help remove lead from the body. However, children are highly sensitive to lead, and exposure at lower levels has been shown to cause harm. A safe blood lead level in children has not been identified. Even low levels of lead in blood are associated with developmental delays, difficulty learning, and behavioral issues. The effects of untreated lead poisoning can be permanent and disabling. Dr. Allwood. What are the most common sources of childhood lead exposure in the US?

[00:01:50.180] - Dr. Paul Allwood

Children are primarily exposed to lead from deteriorated lead-based paint, contaminated soil, and contaminated drinking water. Children can be exposed to lead when they swallow or breathe in lead dust. For example, homes built before 1978 are likely to contain some lead-based paint. When the paint peels and cracks, it makes lead dust. In addition, they can be exposed by swallowing or breathing in soil that is contaminated with lead while playing outside, or secondhand, when it's brought inside the home on things like shoes or clothes. Furthermore, children can be exposed to lead by drinking water that has been delivered through plumbing materials that contain lead or by drinking formula made with water that contains lead. Other sources of lead exposure include toys, jewelry, foods, food wrappers, cosmetics, medicines, traditional home remedies purchased from informal or unregulated sources; aviation gas in the air; and soil near airports from piston engine aircraft. And lead dust brought into the home my parents and others whose work or hobbies involve lead-based products.

[00:03:23.360] - EH Nexus Host

How do I know if my child has been exposed to lead?

[00:03:28.310] - Dr. Paul Allwood

A blood lead test is the best way to find out if your child has been exposed to lead. Most children with lead in their blood have no obvious symptoms or show no signs. Talk to your child's health care provider about getting a blood lead test.

[00:03:48.410] - EH Nexus Host

What can parents and caregivers do to protect their family from lead exposure?

[00:03:54.850] - Dr. Paul Allwood

Parents or caregivers can take the following steps to protect their families from lead exposure. Talking to their child's health care provider about getting a blood lead test is perhaps one of the most important. Asking their local water authority to test water for lead. Using only approved methods for removing lead hazards or using EPA or state-approved lead-safe certified renovation firms. Fixing surfaces in the home that have peeling or chipping lead-based paint. And renters should talk to their landlord for fixing problems like this. Regularly cleaning floors, window sills, and other surfaces using wet methods such as a water spray on the dust source and taking precautions to avoid lead dust when doing remodeling. Removing shoes or wiping soil off shoes before entering the house. Washing children's hands, bottles, pacifiers, and toys very often. Making sure children eat nutritious meals that are adequate in iron and calcium, because being deficient in these minerals increases lead absorption from the intestines. Contacting your state or your local health department to get your home checked for lead hazards is also a step that can be taken.

[00:05:36.970] - EH Nexus Host

How do I know if my home has lead-based paint?

[00:05:40.020] - Dr. Paul Allwood

It is important to find out the year that your home was built. In homes or buildings built before the 1978 ban on lead in residential paint, assume that the paint contains lead unless tests show otherwise. There is also likely to be lead in the soil around older buildings, either from exterior paint or from vehicle emissions. Renters should ask their landlords to have their homes checked for potential sources of lead.

[00:06:16.100] - EH Nexus Host

What follow-up actions are recommended for children with lead in their blood?

[00:06:21.520] - Dr. Paul Allwood

A child's health care provider is best source for addressing issues and concerns about their health. If a child has lead in their blood, a doctor may recommend actions such as binding and removing lead from the home, feeding the child a diet that's adequate in iron and calcium, connecting the child to early educational services, and conduct follow-up blood lead testing. Early intervention is key to reducing long-term effects. If a child has high levels of lead in their blood, healthcare providers may recommend additional tests and treatment to remove some of the lead from the blood. For more information on caring for children with lead in their blood, refer to the recommended actions based on blood lead levels, which is located on the CDC's webpage.

[00:07:19.600] - EH Nexus Host

What populations in the US are most at risk for lead poisoning?

[00:07:25.480] - Dr. Paul Allwood

In many places across the United States, significant numbers of children are still exposed to lead. This is due mainly to the variability of sources of lead in the environment and other factors such as the age of housing and poverty. Children around six years of age are at greater risk for health problems caused by lead, compared to exposures in adults. This is because their bodies are still developing and growing very rapidly. Children who are from families with lower incomes who spent time in housing before 1978 are at a higher risk for lead exposure. Children of some racial and ethnic groups such as non-Hispanic black persons, are also at higher risk due to poor housing stock. Additionally, since lead can pass from a mother to an unborn baby, people who are pregnant are who are also at greater risk for lead exposure. Some countries have less strict regulations to protect children from lead exposure. And so children who are immigrants, refugees, or recently adopted from outside the United States; are also at higher risk of lead exposures. Adults who work in certain industries or have certain hobbies may be exposed to lead and can unknowingly bring it home to expose their families.

[00:08:54.660] - Dr. Paul Allwood

These include work or hobbies such as ammunition manufacturing, working or practicing shooting in ranges, work as an auto mechanic, working in stained glass repair are some examples of those types of occupations and hobbies that could lead to lead exposure. It's very important that adults who are exposed to lead at work or in hobbies, take precautions to prevent take-home exposure to young children and pregnant people at home. More information about adult exposure is available from the National Institute of Occupational Safety and Health, otherwise known as NIOSH.

[00:09:45.350] - EH Nexus Host

Dr. Paul Allwood, Chief of CDC's Lead Poisoning, Prevention and Surveillance Branch, thank you for being with us today and for sharing your expertise. And thank you all for listening to today's episode of the Environmental Health Nexus podcast. More information on how to prevent exposure to lead and lead

poisoning is available on our website at cdc.gov/nceh/lead. Stay tuned for our upcoming episodes, where we will continue diving into all things environmental health.