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Parents Report: Lead Astray

By Jeannette Moninger

It's not just old paint that's poisonous -- this toxic metal can be in water and soil, as well as in a scary number of children's products.

The Lowdown on Lead

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When 4-year-old Riley Jackson started having behavior problems in preschool, his teacher suggested he get checked for lead poisoning. His mother, Maija, was stunned when the blood test showed that Riley's lead level was indeed very high -- and she frantically tried to pinpoint the cause. The Jacksons' Baltimore home, built in 1980, showed no traces of the poison, and Riley's older brother was lead-free too. But Riley loved to put jewelry and small toys in his mouth -- and his parents finally discovered that there was lead in one of his favorite beaded chain necklaces.

Lead is one of the biggest environmental hazards for kids. More than 310,000 American children ages 6 and under have been diagnosed with lead poisoning, which can cause lasting learning and behavior problems. And as the Jacksons learned, your child could be at risk even if there's no lead paint in your home. In the past few years, the Consumer Product Safety Commission (CPSC) has increased its testing of kids' jewelry, toys, and even products like sidewalk chalk -- and recalls have skyrocketed. The dangerous products were almost all manufactured in China and India, where safety oversight is lax. This year alone, the CPSC has issued 27 different lead-related recalls for kids' products, including 1.5 million Thomas & Friends Wooden Railway toys in June, and 17 jewelry recalls. Leaded jewelry is particularly dangerous because kids tend to put it in their mouth. In fact, a 4-year-old boy in Minnesota died of lead poisoning last year after swallowing a charm, which Reebok gave away with some of its sneakers.

Toxic Legacy

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Most children with lead poisoning get sick from ingesting paint dust that lingers in homes built before 1978 -- the year that lead was banned from household paint. The American Academy of Pediatrics (AAP) estimates that one out of four homes with young children still has lead. Blaine Baker, of St. Louis, was diagnosed by a routine blood test at his 1-year checkup. His parents had recently renovated their 100-year-old home and, in the course of sanding and scraping away old paint from the original windows and doors, had unwittingly released minuscule lead-paint particles into the air. Every time they opened a window, the friction caused more lead dust to fall, and whenever Blaine crawled or played nearby, his hands and toys became coated with the nearly invisible poison.

Lead can invade a young child's body surprisingly quickly. Once ingested, it seeps into the bloodstream, damages the central nervous system, and disrupts brain circuits that are critical for learning. "Kids exposed to lead tend to have lower intelligence, learning disabilities, hearing problems, and behavioral issues like aggression," says Marcel Casavant, MD, chief of pharmacology and toxicology at Columbus Children's Hospital, in Ohio. Lead can also harm the heart, liver, and kidneys. "A child with lead poisoning might have headaches or stomach pains, or become easily tired," says Dr. Casavant. Since the symptoms of exposure aren't obvious, parents and doctors often assume they're caused by something

else. Even more commonly, though, a child won't have any symptoms at all.

Babies and toddlers are the most vulnerable because their brains are still developing and they absorb up to 50 percent of ingested lead (adults absorb only about 10 percent). Of course, they also spend lots of time crawling on the floor and putting their hands in their mouth, and because lead tastes sweet, leaded items can be irresistible.

Even unborn babies are at risk. A pregnant woman who has lead in her system is at increased risk of miscarriage, stillbirth, and preterm labor. But unless the exposure was recent, blood tests won't detect the toxin because lead eventually leaves the bloodstream and settles in bones. "If a woman with prior lead exposure doesn't get enough calcium in her diet, her body will pull the mineral from her bones to help her baby grow -- but lead comes with the calcium," says Michael Shannon, MD, chair of the AAP Committee on Environmental Health. Ask your obstetrician to give you the Centers for Disease Control and Prevention (CDC) lead risk-assessment questionnaire; if you're found to be at high risk, eating a diet high in calcium can help protect you and your baby.

Lead in Surprising Places

But the toxic metal isn't found only indoors: Lead dust and chips from a home's painted exterior can leach into the ground. "Kids get it on their hands and toys while playing in the dirt, and family members track it inside on their shoes," says Dr. Casavant. Drinking water can be contaminated by lead pipes and solder in old homes and city water systems.

Lead in children's products, however, is a rapidly growing problem; nearly every week, the CPSC recalls a toy or necklace. Cheap jewelry, particularly items made in China or India with dull metallic components, fake painted pearls, and plastic cords, poses the most risk. According to the CPSC, jewelry sold in recent years by Claire's, Disney, and American Girl stores, to name just a few, has also tested high for lead.

Over the years, researchers have discovered that lead can be harmful at lower levels than they'd realized. In fact, the CDC has lowered the "acceptable blood-lead level" four times. In 1970, a child would have been diagnosed with lead poisoning if the amount in his blood was 60 micrograms per deciliter (mcg/dL), but now a child gets the diagnosis if his level is 10 mcg/dL or higher. However, studies have found that IQ levels drop significantly even when blood-lead levels are lower than 10 mcg/dL. "The more we learn about lead's effects, the clearer it becomes that there's no such thing as a safe amount," says Omer G. Berger, MD, director of the Lead Clinic at Cincinnati Children's Hospital Medical Center.

Now 7, Riley Jackson has a blood-lead level of 6 mcg/dL, down from a high of 28 mcg/dL. However, Riley has been diagnosed with ADHD, and his exposure to lead could be partly to blame. Research has found that children with levels higher than 2 mcg/dL are four times more likely to have ADHD, and experts believe that lead interferes with the body's production of the neurotransmitters in the brain that are essential for impulse control. "Kids who are already genetically predisposed to ADHD are at the greatest risk," says Parents advisor Judith Owens, MD, director of the Learning, Attention, and Behavior Clinic at Rhode Island Hospital, in Providence. "Lead probably acts as a trigger in these children."

Keeping Your Family Safe

It's crucial to reduce a child's lead level in order to prevent further neurological damage, but sadly, there's no good treatment for the damage that has already been done. Eating a low-fat diet that's high in vitamin C, calcium, and iron can slow lead absorption and possibly reduce the effects of exposure. If a child's blood-lead level exceeds 45 mcg/dL, he'll need a drug that strips lead from the body (a process known as chelation). "Without treatment, kids with lead levels of 100 mcg/dL or higher have a serious risk of seizure, coma, anemia, high blood pressure, organ failure, and even death," says Dr. Casavant. However, intelligence and behavior problems don't improve dramatically after chelation, and the drug's side effects can range from annoying (nausea and sulfur-smelling gas) to life-threatening (decreased white-blood-cell counts and severe allergic reactions).

The most effective way to lower your child's blood-lead level is to get rid of the contaminated paint or products in your home. It's not easy to remove lead paint; using dry sanders and scrapers creates lead dust and fumes, so you need to use wet-sanding methods along with high-efficiency particulate air (HEPA) filters. "Since you can make the problem even worse, it's important to know how to remove lead paint safely," says Ruth Ann Norton, executive director of the Coalition to End Childhood Lead Poisoning. "Be sure to use a certified contractor or attend a lead-safety training course in your area."

If you live in an old home that has lead paint hidden under coats of unleaded paint, experts say you should leave it alone unless it's blistering, cracking, or can be easily dislodged. But covered lead paint

can still break down and create toxic dust because of age, friction, or repairs. "Parents should inspect surfaces regularly for signs of deterioration and clean them well every week," says Norton. To remove any lingering particles after renovating, you must use a vacuum with a HEPA filter and wet-clean all horizontal surfaces (including mini blinds) often. Six months after the Bakers started using these proper cleaning techniques, Blaine's blood-lead level dropped significantly.

With all the recent reports about dangerous chemicals in products made in China, protecting your kids from lead in metal jewelry and other items is crucial. To be safe, it's best to check recent product recalls frequently and avoid buying any cheap jewelry. "Parents assume that products marketed to kids have been tested for harmful materials like lead," says Norton. "Unfortunately, that's not always the case." According to the CPSC, its field investigators purchase a variety of kids' products and test them for lead -- but they can't test every item on the market. Manufacturers are also responsible for making sure their products don't have high levels.

However, pressure is mounting to improve the system. The CPSC is considering a stricter policy, which would ban (rather than simply recall) all metal jewelry and toys containing more than the allowed amount of lead (.06 percent by weight), and, the Environmental Protection Agency (EPA) recently sent letters to 120 importing and manufacturing companies with past lead-related recalls warning them to test their products for lead. Last year, California passed a law requiring retailers to meet the federal standards for lead content in jewelry; companies that break the law will pay a fine. "Retailers have until March 2008 to notify metal suppliers, manufacturers, and distributors about the new standards, and to ensure that products are legal," says Caroline Cox, research director for the Center for Environmental Health, a nonprofit organization in California. Although the law is binding only in that state, companies will probably sell the lead-safe jewelry nationwide.

To help address the problem of lead contamination during renovations, the EPA is considering regulations that would require all contractors who work in child-occupied facilities to be trained in proper lead-paint-removal techniques. Although in 2000 the President's Task Force on Environmental Health Risks and Safety Risks to Children established a goal to remove lead paint from more than 20 million homes by 2010, so far, fewer than half a million of these homes are lead-safe. "We're still working backward," says Dr. Shannon. "We identify a lead-poisoned kid, and then we clean up his home. These homes should be made safe before we allow children to live in them."

Blaine Baker's mother, Cristina, certainly agrees, and she's on a crusade to prevent other kids from getting sick the way Blaine did. "There are a lot of couples in our neighborhood who are renovating houses and starting families, and they don't know that their dream home could cause a nightmare," she says. "We've got to educate parents and protect children."

Rate Your Risk

If you answer yes to any of these questions, see "Poison Control."

- Was your home built before 1978?
- Have you recently renovated your older home or does it have peeling paint?
- Does your child put items like jewelry, toys, or even dirt in her mouth?
- Does your child regularly visit a structure built before 1978 (including a relative's home, daycare center, or preschool)?
- Does your child play in soil near your home?
- Do you live near a highway or an industrial source of lead such as a smelting plant?
- Does your child have a friend with lead poisoning? (It's not contagious, but your child may have been exposed to lead while visiting the friend's home.)
- Do you or another family member work with leaded material? (Those at high risk include welders, plumbers, x-ray technicians, metal miners, auto mechanics, jewelry makers, and stained-glass artists.)

Poison Control

If your family could be exposed to lead, take these precautions.

- Have your child tested. The American Academy of Pediatrics (AAP) recommends testing at 12 months and 24 months, but if you live in a home built before 1978 (or your child spends a lot of time at another old home) it may be best for him to be tested yearly through age 6. A finger-stick blood test gives results in three minutes.
- Use certified lead inspectors or risk assessors to check for lead in and around your home. To locate professionals in your area, go to epa.gov/lead. A recent study found that lead-check swabs that are sold in home-improvement stores are not reliable.
- Don't remove lead-based paint hazards (or do renovations) yourself unless you've completed a lead-safety training course. To find a contractor certified in lead abatement contact leadlisting.com/lead.html.
- Take off your shoes before entering the home to prevent tracking soil inside.
- Run tap water for 30 seconds until it gets cold, and never use hot water to mix baby formula (hot water leaches more lead from pipes). For information about getting your water tested, call the EPA's Safe Drinking Water Hotline at 800-426-4791.
- Cover exposed soil with plants or gravel.
- Wash your hands and your children's hands, toys, and pacifiers often to remove dust. If you work with lead, shower and change your clothes before touching your children. Wash your clothing separately.