MDAAP/AAP Lead Testing ECHO

March 1, 2023

Session 6: Counseling Patients and Caregivers
ACKNOWLEDGMENTS

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HOUSEKEEPING

- For educational and quality improvement purposes, this teleECHO session will be recorded
  - By participating in this session, you are consenting to be recorded – we appreciate and value your participation
- To protect patient privacy, please do not provide any protected health information (PHI)
- Please mute your microphone when not speaking
- Please enable your video if possible
- Chat with Loretta I. Hoepfner in Chatbox if you need technical assistance
AGENDA

• Welcome – Loretta I. Hoepfner
• Lecture Presentation – Mike Ichniowski, MD, FAAP, and Paul Rogers, MD, FAAP
• QI Data Review – Troy Jacobs, MD, FAAP
• Case Presentation – Paul Rogers, MD, FAAP
  – with special guest: Rena Boss-Victoria, DrPH, MPH, MSRN, CNS (Section Head, Lead Surveillance, Nursing Consultant; Lead Poisoning Prevention Program; Maryland Department of the Environment)
• Case Discussion – All
• Follow Up and Next Steps – Loretta I. Hoepfner
TODAY’S LECTURE

Counseling Patients and Caregivers

Paul T. Rogers MD MBA FAAP
Michael Ichniowski MD FAAP

March 1, 2023
DISCLOSURES

• In the past 12 months, I have had the following financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial service(s): None

• The views presented in this didactic do not necessarily represent the views and opinions of the AAP.
LEARNING OBJECTIVES

By the end of this ECHO session, participants will:

• Understand the pediatrician’s role in counseling parents of children affected by lead poisoning.
• Discuss counseling and education for parents of children affected by lead poisoning.
• Review resources that may be utilized by practices when educating and counseling parents of children affected by lead poisoning.
PEDIATRICIANS ROLE IN COUNSELING PARENTS

• Develop with the family the plan for management of the child with an elevated blood lead level
• Discuss interventions to prevent additional lead exposure
• Discuss dietary measures to reduce lead absorption
• Describe the plan for ongoing blood lead monitoring
• Discuss potential cognitive deficits; monitor development and behavior
• Referral to services to help minimize damage done by the lead poisoning
• Provide families with educational resources
THE PLAN TO MANAGE THE CHILD

Environmental History + Home Inspection

Developmental Assessment & Support

Lead Hazard Prevention & Remediation

Nutrition & Iron Supplementation

Images from Clip Art with exception of early intervention image; sourced from content created by Marissa Hauptman
THE PLAN TO MANAGE THE CHILD: ENVIRONMENTAL HISTORY & HOME INSPECTION

Environmental History
Completed by the Lead Poisoning Prevention staff at local health department

Home Inspection
Completed by the Environmental Investigators at the MDE

Images from Clip Art with exception of early intervention image; sourced from content created by Marissa Hauptman
THE PLAN TO MANAGE THE CHILD: LEAD HAZARD REDUCTION

1. Reduce continued lead exposure in the home
2. Nutritional interventions to minimize further absorption of lead
3. Minimize exposure to lead in house dust
4. Minimize exposure to lead in soil
5. Eliminate any other sources of lead exposure
LEAD HAZARD REDUCTION IN THE HOME

Childhood Lead Exposure

Amid growing evidence that even low levels of lead exposure can cause long-term damage to children's development, the American Academy of Pediatrics urges stronger federal action to eliminate exposure.

None
Level of lead exposure considered safe for children

$50 billion
Annual cost of childhood lead exposure in the United States

$17 to $221
Money saved for every $1 invested to reduce lead hazards in U.S. housing

535,000
Estimated number of U.S. preschool children with blood lead levels high enough to call for medical management (more than 5 μg/dL)

23 million
Estimated total loss of 23 points among U.S. children today from lead toxicity

1 in 5
Attention Deficit Hyperactivity Disorder cases attributed to lead exposure

37 million
Estimated number of housing units in United States that contain lead-based paint

Common sources of lead in the home:
- Dust
- Soil
- Water in lead pipes
- Toys
- Nutritional supplements
- Dishware
- Fishing sinkers
- Bullets
- Residue from parent occupations
- Paint/hobby materials

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®

**Risk Reduction Guidance for Families**

**Beware:** Unsafe repairs can make the problem worse!

- Flush 1st draw tap water ≥ 3 minutes
- Shoes off at threshold
- Keep windows closed to avoid paint abrasion
- Frequent wet mopping of doors/windowsills/baseboards
- Frequent damp-dusting/HEPA-filtered vacuum
- Frequent hand washing
- Duct tape/contact paper on chipping paint
- Wash toys, bottles, pacifiers often
- Consider filter to reduce lead in drinking water
- Contact local water department: home’s service line; test municipal/home water supply
- Test private well water annually

**Nutritional Guidance**

- **Calcium**: Milk, orange juice, yogurt, cheese
- **Iron**: Meats, Fe-fortified cereals, shellfish, lentils, spinach
- **Magnesium**: Cereal, soy milk, peanuts, almonds
- **Vitamin D & C**: Sunlight, dairy, tuna, salmon, cod, mushrooms, orange juice, grapefruit juice

NUTRITION HANDOUTS FOR FAMILIES

WHAT YOU SHOULD KNOW ABOUT LEAD AND NUTRITION

LEAD FACTS
There is no safe level of lead in your body. Lead isn’t good for anyone’s health and is especially bad for small children. Children can absorb 4 to 5 times more lead than adults. And, lead is absorbed fastest on an empty stomach. Keep your family lead-safe by avoiding contact with it. Remember that you and your children can be exposed to lead from a variety of sources such as paint, dust, dirt, eating food in leaded jewelry, and eating food on a plate made from leaded glass.

NUTRITION FACTS
You May be Able to Prevent Lead from Getting into Your Child’s Body (Absorption) by Following the Healthy Nutrition Guidelines Listed Below...

1. Foods prepared and served to young children may prevent lead absorption.
2. Serve your children small, healthy snacks between meals.
3. Serve foods that are high in iron, calcium and vitamin C.

IRON
Iron may help reduce the absorption of lead in the body.
Food sources of iron include:
- Lean red meats, fish and chicken
- Spinach, kale and collard greens
- Iron fortified cereal, bread and pasta
- Dried fruit, such as raisins and prunes
- Nuts

CALCIUM
Calcium keeps bones strong and may help reduce the absorption of lead in the body.
Food sources of calcium include:
- Milk and milk products (cheese and yogurt)
- Spinach, kale and collard greens
- Yogurt

VITAMIN C
Vitamin C works with iron and may help reduce the absorption of lead in the body.
Food sources of vitamin C includes:
- Citrus fruits like oranges and grapefruit
- Tomatoes and tomato juice
- Peppers
- Other fruits like kiwi, strawberries and melons

## Blood Lead Level (BLL) Monitoring

<table>
<thead>
<tr>
<th>Venous blood lead</th>
<th>Early F/U testing</th>
<th>Later F/U testing**</th>
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<tbody>
<tr>
<td>3.5-9 ug/dL</td>
<td>3 months*</td>
<td>6-9 months</td>
</tr>
<tr>
<td>10-19 ug/dL</td>
<td>1-3 months*</td>
<td>3-6 months</td>
</tr>
<tr>
<td>20-44 ug/dL</td>
<td>2-4 weeks</td>
<td>1-3 months</td>
</tr>
<tr>
<td>&gt;45 ug/dL</td>
<td>repeat ASAP (consider admission for chelation)</td>
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</tbody>
</table>

*initial F/U test can be done within one month to check for rising BLL

**after 2-4 tests show steady decline

https://www.cdc.gov/nceh/lead/advisory/acclpp/actions-blls.html
DISCUSS AND MANAGE COGNITIVE DEFICITS

Loss of IQ points

Learning disabilities

ADHD

Neurobehavior Disorders

EPA ISA 2013: https://cfpub.epa.gov/ncea/isa/recorddisplay.cfm?deid=255721

Images from Clip Art with exception of early intervention image; sourced from content created by Marissa Hauptman
MARYLAND EARLY CHILDHOOD EDUCATION (ECE): Large scale, short-term public preschool programs have positive impacts on children’s academic readiness and mixed impacts on their socioemotional readiness.

MARYLAND HEAD START: Shown to have modest cognitive improvement among enrolled children (Differentiated from the general ECE programs in that it focuses on children’s health, nutrition, mental health, and social service needs.)

Contacts by County
https://health.maryland.gov/mmcp/epsdt/healthykids/Section%208/Maryland-Head-Start.pdf

Source: CDC: Educational Interventions for Children Affected by Lead (2015)
# Resources for Providers

<table>
<thead>
<tr>
<th>Item</th>
<th>Website</th>
<th>QR Code</th>
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### Resources for Providers - Continued

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<tr>
<th>Item</th>
<th>Website</th>
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<tr>
<td>MDH Lead Program</td>
<td><a href="https://phpa.health.maryland.gov/OEHFP/EH/Pages/Lead.aspx">https://phpa.health.maryland.gov/OEHFP/EH/Pages/Lead.aspx</a></td>
<td></td>
</tr>
<tr>
<td>New MDH programs for children with lead exposure who are enrolled in or eligible for Medicaid/MCHIP</td>
<td><a href="https://phpa.health.maryland.gov/OEHFP/EH/Pages/CHIPEnvCaseMgmt.aspx">https://phpa.health.maryland.gov/OEHFP/EH/Pages/CHIPEnvCaseMgmt.aspx</a></td>
<td></td>
</tr>
</tbody>
</table>
Support need for *specific* clinical information on environmental toxins

Facilitate *early* response to public health issues

Engage in public educational outreach activities

Participate in clinical assessments and referrals

*Partner with* local and state health departments and regional poison control centers

Give *advice* to residents and community leaders

Provide health care provider *education* and training opportunities

Source: www.pehsu.net
ADDITIONAL PROVIDER RESOURCES

• State-level comprehensive lead poisoning prevention program (CLPPP) websites:
  – PEHSU: www.pehsu.net/lead_resources.html
  – EPA: https://www.epa.gov/lead
  – CDC: https://www.cdc.gov/nceh/lead/default.htm

• AAP Childhood Lead Exposure Infographic


QUESTIONS?
QI DATA REVIEW

Troy A. Jacobs, MD, MPH, FAAP
# DATA COLLECTION

<table>
<thead>
<tr>
<th>Data Cycle #</th>
<th>Month of Visit (pull charts from time period listed below)</th>
<th>Date Entry in QIDA</th>
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<tbody>
<tr>
<td>1 (baseline)</td>
<td>August 1-31, 2022</td>
<td>September 28, 2022</td>
</tr>
<tr>
<td>2</td>
<td>September 1-30, 2022</td>
<td>October 14, 2022</td>
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<tr>
<td>3</td>
<td>October 1-31, 2022</td>
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<td>November 1-30, 2022</td>
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<td>February 10, 2023</td>
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<tr>
<td>7</td>
<td>February 1-28, 2023</td>
<td>March 10, 2023</td>
</tr>
</tbody>
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QUESTIONS?
CASE PRESENTATION

Paul Rogers, MD, FAAP
Rena Boss-Victoria, DrPH, MPH, MSRN, CNS
QUESTIONS?
FOLLOW UP AND NEXT STEPS

• You will receive a follow-up email from MDAAP with:
  – PPT slides from today and a recording of the session
  – Link to the post-session SurveyMonkey

• Next Steps:
  – Complete your PDSA form and return to troy_a_jacobs@hotmail.com and loretta@mdaap.org
  – Enter your data into QIDA
  – Complete your Case Presentation form and return to michich23@hotmail.com, mdpaul5381@aol.com, and loretta@mdaap.org
  – Next – and FINAL! – webinar/Didactic & QI Session #8 on Wednesday, April 5, 2023, at 12-1p ET – Register at https://us02web.zoom.us/meeting/register/tZIpcO2spz0sGdDar3-uP7boJAgWBse4HWwe.
THANKS FOR TAKING CARE OF OUR MARYLAND KIDS!