
From: Dykema, Linda D. (DHHS)
Sent: Friday, October 30, 2015 2:27 PM
To: Wells, Eden (DHHS)
Subject: RE: Breast feeding and maternal lead exposure
Attachments: leadandpregnancy CDC 2010.pdf

Follow Up Flag: Flag for follow up
Flag Status: Completed

I don't have any information beyond what's in this CDC publication that I had previously shared with you.

From: Wells, Eden (DHHS)
Sent: Friday, October 30, 2015 2:18 PM
To: Dykema, Linda D. (DHHS)
Subject: Fwd: Breast feeding and maternal lead exposure

Sent from my iPhone

Begin forwarded message:

From: "Valacak, Mark" <MVALACAK@gchd.us>
Date: October 30, 2015 at 1:53:22 PM EDT
To: "Wells, Eden (DHHS)" <WellsE3@michigan.gov>, Laura Carravallah <Laura.Carravallah@hc.msu.edu>
Cc: Lawrence Reynolds <lrey52@gmail.com>, <gdn2@aol.com>, Peter Levine <plevine@gcms.org>
Subject: RE: Breast feeding and maternal lead exposure

In adults when we see high levels it is generally an occupational exposure and inhalation of lead fumes in industrial exposure settings like battery manufacturing, lead smelting, and stained lead glass.

A couple of factors are important to remember when we are talking about lead exposure in adults versus children. Absorption rates from gastrointestinal exposure are lower in adults versus children. So where a toddler might absorb about 50%, absorption rates decline in adults to 3-10%. About 90% of lead will end up in the bone where it mimics calcium. It causes less harm there than if it went to soft tissues like the liver or kidneys. The problem is that under circumstances that cause calcium mobilization, lead stored in the bone may remobilize and circulate in the blood, elevating blood lead levels. The mobilization of stored lead with pregnancy, menopause, and aging is a cause for concern. So to help mitigate that there should be an emphasis on good nutrition and a calcium rich diet. Pregnant and breastfeeding woman should be sure to take their vitamins to minimize calcium mobilization from the bones.

Reinforcing these messages would help minimize exposure.

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Public Health

Please consider the environment before printing this e-mail.

"There are two lasting bequests we can hope to give our children: one is roots; the other is wings." Hodding Carter

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From: Wells, Eden (DHHS) [<mailto:WellsE3@michigan.gov>]

Sent: Friday, October 30, 2015 12:02 PM

To: Laura Carravallah

Cc: Lawrence Reynolds; qdn2@aol.com; Peter Levine; Valacak, Mark

Subject: Re: Breast feeding and maternal lead exposure

Looping I our toxicologist, as we have discussed this. Note that anyone should be using filtered or bottled water now, so that the issue of which house and which risk should already be addressed. Also- we do not have any data supporting adults with blood lead levels that high (Off top of my head) and none have been in the 40's or higher since Long before April 2014.

Regardless, Linda and I had talked about breastfeeding moms... She can help.

Eden

Sent from my iPhone

On Oct 30, 2015, at 11:33 AM, Laura Carravallah <Laura.Carravallah@hc.msu.edu> wrote:

Thank you for your quick answer!

This makes sense for pregnant moms, as there is no choice as to how the baby will get its nourishment. However, for breastfeeding moms in households in which filters will be provided, **do we know that breast milk (with possible higher maternal BLLs secondary to bone release from chronic exposure) is preferable to filtered tap water?** Does anybody know what the range of breast milk lead levels are in women who have BLLs around 30 or 35? In the data that Dr. Reynolds and I looked at (previously attached) the BLLs didn't go that high, and it said that the breast milk levels fluctuated.

In the Ettinger paper the highest maternal BLL with a breast milk sample was 29.9 (Table 1), which is less than the level of 40 recommended in the MDHHS handout. The article said that "Breast milk lead expressed as percentage of maternal blood lead ranged from 0.4 to 9.2% (mean = 1.6%, SD = 1.2%)" – p 929. The means a less an issue than the outliers, considering some of the extremely high water lead levels that have been found in the city and also the difficulty of predicting which houses might be most at risk.

I'm not sure if there is other, better data out there that might shed some light on this? Also, your attached pamphlet does deflect patients back to their doctors, but I'm

not sure that those of us in the GCMS feel that we have adequate information to advise people further.

Laura

From: Wells, Eden (DHHS) [<mailto:WellsE3@michigan.gov>]
Sent: Friday, October 30, 2015 11:02 AM
To: Laura Carravallah
Cc: 'Lawrence Reynolds'; 'gdn2@aol.com'; Peter Levine; Mark Valacak
Subject: RE: Breast feeding and maternal lead exposure

Good morning,

Note that MDHHS/GCHD is about to send out (by emails and hopefully you all can disseminate at will to your colleagues?) a provider letter with provider resources, which will also all be on the webpage we are using. Parent letters with resources for them will be going out in hard copy through schools and daycares---all of this will be occurring in the next couple of days. Note that there is already a flyer on the Michigan.gov/flintwater webpage for pregnant moms and breastfeeding---note that, like all others including children, treatment only occurs for levels over 45, but removing lead from any environmental sources is important at all times.

We have already gotten information regarding pregnancy and lead levels from CDC: (Mary Jean Brown): "Pregnant women who work with lead should be tested (occupational, hobby, shooting ranges, renovation exposures). Worried women who want to be tested should not be refused but if their only exposure is the water the only intervention is to stop drinking the water from the river and it is my understanding that that has been accomplished. There is no medical treatment for pregnant women (chelation therapy) in the first trimester because of teratogenic concerns. At blood lead levels ≥ 45 in later trimesters, chelation may be considered to protect the fetus but should only be done in consultation with someone familiar with chelation in early childhood and high risk pregnancies. A general alert to area OB/Gyn's and maternity clinics that patients should not drink water from the river, would be advisable."

Eden

Eden V. Wells, MD, MPH, FACPM
 Chief Medical Executive
 Michigan Department of Health and Human Services
 201 Townsend St., 5th Floor CVB
 Lansing, MI 48913

From: Laura Carravallah [<mailto:Laura.Carravallah@hc.msu.edu>]
Sent: Friday, October 30, 2015 10:51 AM
To: Wells, Eden (DHHS)
Cc: 'Lawrence Reynolds'; 'gdn2@aol.com'; Peter Levine; Mark Valacak
Subject: Breast feeding and maternal lead exposure

Dear Eden,

Our county medical society is in the process of drafting a “fact sheet” specifically for our physician members to try and help them help their patients. We are endeavoring to keep the content consistent with the other messaging going out, but to use as many channels as we can, and to make this very easy for physicians to digest (i.e. brief and pertinent to their patients). I am attaching our draft to this email, as well as some of the articles that we have found.

One of the questions that came up is what to tell lead-exposed mothers who are pregnant or breastfeeding. We have pulled a number of articles that talk about lower maternal BLLs, but these are usually in the context of lower lead levels in drinking water. We are not sure if these recommendations still hold in our situation: the water is variable, the mothers are not routinely tested (should they be?), and lead is released from maternal bone for a long time. We also read that the lead levels fluctuate. All of this is to say, we are not certain that breastfeeding is safer than using filtered water in our situation (though it pains us as pediatricians and family docs to suggest this) and also, what the safe BLL is for a mother? The MDHHS recommendation of 40 in the recent Lead Week Toolkits seemed high, considering the fluctuating BLL and bone storage.

You had previously asked your toxicologist about the copper levels for us, and I was hoping you might pose this question to them as well.

Thank you for your help!

Laura Carravallah, MD

<deq-flintwater-breastfeedingandlead_503281_7.pdf>