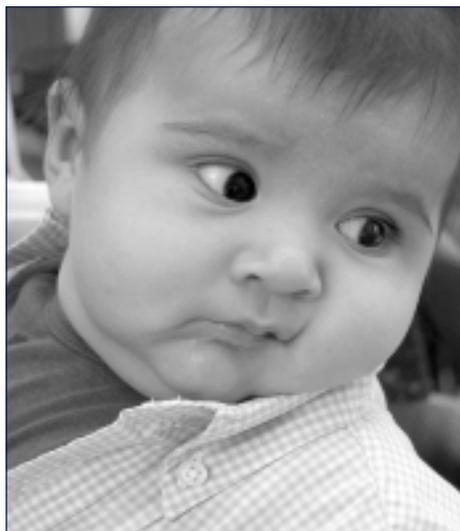




# TX CLPPP News

vol. 4, issue 3

July 2006



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Lab Submission Help Section  
See pages 4-5

## Helping Families Prevent Lead Poisoning

The previous issue of Texas CLPPP News quoted the American Academy of Pediatrics policy statement recommendation for a fundamental shift in thinking about childhood lead poisoning: rather than emphasizing screening and case management activities, we must focus on moving toward prevention. Healthcare providers play a pivotal role in educating families about protecting their children from lead – and this often means discussing the potential dangers of deteriorating paint in the home, use of traditional pottery, and the risk posed by certain traditional remedies and cosmetics.

Nevertheless, it seems that Texas CLPPP staff are alerted almost weekly to yet another lead-containing product made available to children (the article on page 5 details the part the Consumer Product Safety Commission plays in keeping dangerous products off the market). Following is information about two more potential sources of lead exposure you may want to discuss with parents.

Toy jewelry has long been suspect because of its unknown metal content, because it is almost always imported, and because of sporadic reports of confirmed lead content. The CDC (Centers for Disease Control and Prevention) MMWR (Morbidity and Mortality Weekly Report) for March 31, 2006 details the death of a child in Minnesota who, it was later discovered, had swallowed a metal charm packaged with a national brand of athletic shoes. The child was admitted to a local hospital after the onset of acute symptoms, and the charm was finally found lodged in the child’s stomach. Heavy metals testing followed. The blood lead level was 180µg/dL, and soon thereafter the child was determined to be clinically brain dead. The Minneapolis Public Health Department lab (using EPA protocol 3050) determined the charm to be 99.1% lead.

We continue to receive new reports of various brands of toy jewelry with confirmed lead content. (The June 2006 issue of *Consumer Reports* has issued a safety alert for 580,000 pieces of children’s jewelry.) This kind of jewelry is widely distributed by dollar stores, in vending machines, and as promotional items.

### Did you know:

The CDC-defined blood lead level “of concern” is  $\geq 10\mu\text{g}/\text{dL}$ .

It is important to realize that this not a demonstrated threshold for adverse toxicologic effects of lead, but rather a “trigger point” for intervention. Mounting evidence suggests damage occurs at even lower levels. There is no definitive threshold that can be considered “safe.”

Continues on page 6

## What You Should Know About the Consumer Product Safety Commission (CPSC)

Recently, the news has been full of information about products recalled by the CPSC because of lead content. Of particular concern to those working to eliminate childhood lead poisoning is the increasing variety of children's jewelry and toys being recalled due to high lead content. Many people misunderstand the role of the CPSC in testing products entering the American market.

Here's what the CPSC wants you to know about their role in promoting consumer product safety, quoted straight from <http://www.cpsc.gov/about/faq.html>:

### Jurisdiction

#### Does CPSC have jurisdiction over all consumer products?

No. We have jurisdiction over more than 15,000 kinds of consumer products used in and around the home, in sports, recreation and schools. But we don't have jurisdiction over some categories of products. They include automobiles and other on-road vehicles, tires, boats, alcohol, tobacco, firearms, food, drugs, cosmetics, pesticides, and medical devices. Our web site has links to the sites of the federal agencies that do.

#### Does CPSC test or certify products for safety before they can be sold to consumers?

No. CPSC doesn't have the legal authority to do that. However, responsible companies test their products before putting them on the market.

#### Does CPSC recommend specific brands or models of products that are safest for consumers to buy?

No. CPSC doesn't endorse or recommend specific brands of products. Instead, we provide information to consumers on what safety features to look for in products. In cooperation with manufacturers, we also announce recalls of products that we believe pose potential risk for serious injury or death.

#### Does CPSC's jurisdiction include false advertising, fraud, or poor product quality not related to safety?

No. Our jurisdiction applies only to consumer product safety. The Federal Trade Commission is responsible for handling complaints of false advertising, fraud, and product quality.

#### Does CPSC cover all manufacturers, retailers, importers and distributors of consumer products regardless of their size, number of employees, or income?

Yes. For more information, see the Guide for Small Business to the U.S. Consumer Product Safety Commission in the Business section of this site.

### What We Do

#### What does CPSC do?

CPSC is an Independent Federal Regulatory Agency. CPSC works to save lives and keep families safe by reducing the risk of injuries and deaths associated with consumer products. We do this by developing voluntary standards with industry

- issuing and enforcing mandatory standards or banning consumer products if no feasible standard would adequately protect the public
- obtaining the recall of products or arranging for their repair
- conducting research on potential product hazards
- informing and educating consumers through the media, state and local governments, private organizations,

and by responding to consumer inquiries

- for detailed information on what CPSC does, see our annual reports and strategic plan and performance reports in the reports section of our site.

### History and Organization

#### When was CPSC created?

CPSC was created in 1972 by Congress under the Consumer Product Safety Act and began operating in 1973.

#### Why was CPSC created?

In the Consumer Product Safety Act, Congress directed CPSC to protect the public "against unreasonable risks of injuries associated with consumer products."

#### What federal Cabinet department does CPSC report to?

CPSC is an independent agency. It doesn't report to nor is it part of any other department or agency in the federal government.

#### How big is the Consumer Product Safety Commission?

CPSC currently has about 480 employees, who are responsible for monitoring the safety of over 15,000 kinds of consumer products. For budget information, see CPSC's current Budget/Performance Plan request to Congress in the reports section of our site.

## More About “Toxic Treats”

In 2004, the Orange County [California] Register published an in-depth investigative series about imported Mexican candy sold in California and found to contain high lead levels.

“The state Department of Health Services has found high levels of lead in 112 distinct brands of candies. Of those, 84 brands were made in Mexico, eight were made in other countries and 20 were of unknown origin.”

Based in part on this investigative piece, in December 2005 the American Public Health Association (APHA) issued a press release about lead-laced candy. (In the previous TX CLPPP News, we addressed the FDA actions mentioned below.) Following is an excerpt from the APHA press release:

“The American Public Health Association (APHA) today praises the Food and Drug Administration’s (FDA) decision to enact a new policy to lower children’s exposure to small traces of lead after finding evidence of lead contamination in certain types of Mexican candy. We at APHA advocated for the FDA to set a lead enforcement standard in all candy –domestic and imported—at 0.1 part per million (ppm) based on our policy that urges the FDA to conduct sufficient monitoring of candy. APHA’s policy also calls for aggressive FDA enforcement action when the agency’s lead standards are exceeded.

This problem came to APHA’s attention last year when news reports claimed candies made in Mexico and sold in California were testing high in lead content. Sometimes these candies are described as ‘seasonings,’ although they are frequently consumed as candies. They are often sold in U.S. grocery stores to children, who are at a higher risk of contamination than adults. The health risks associated with lead exposure are significant, and neurological damage caused by lead appears to be irreversible.

We believe that the FDA’s move is an important step in ensuring that candy does not contain unacceptably high levels of lead that endanger the public’s health.”

The FDA statement is available online, and suggests that, for most candies, the chile coating is the lead-containing element. ■

### Related Links:

#### The Orange County Register Investigative Report

<http://www.ocregister.com/investigations/2004/lead/part1.shtml>

#### American Public Health Association Press Release

[http://www.apha.org/news/press/2005/1222805\\_candy\\_controll.htm](http://www.apha.org/news/press/2005/1222805_candy_controll.htm)

#### The FDA Statement

<http://www.fda.gov/bbs/topics/news/2004/NEW01048.html>

## Screening Data for Texas, 2004

### Quick Facts

- Approximately 345,412 Texas children <15 years of age were tested for lead poisoning in 2004
- Approximately 367,000 blood lead tests were reported to Texas Child Lead Registry in 2004 (this figure includes both initial screening tests and follow-up testing of children found to have elevated blood lead levels)
- Based on estimates for population in 2004, 12.7% of Texas children 6 and under were tested for lead exposure.
- Of these, 5,164 reported elevated blood lead levels

### Age of Children Tested

Age:	Number tested:
<1	41,236
1	94,629
2	64,047
3	32,687
4	32,809
5	17,543
6	15,215
>7	47,246
<b>Total:</b>	<b>345,412</b>

### Ethnicity and Medicaid Status

- 88% children with EBLs are enrolled in Medicaid
- 54% children with EBLs are Hispanic
- 2,629 children with EBLs are enrolled in Medicaid and are Hispanic

### Reminder—

Report ALL blood lead test results, not just those above 10µg/dL.

This information must be included on blood lead reports:

Child’s name	Address
Date of birth	Blood lead result
Gender	Type of blood sample
Ethnicity	Race
Name and address of testing laboratory	

# Help Page: Lab Submissions

**W**hy the DSHS lab doesn't recommend the use of "winged" blood collection sets for venipuncture:

"Winged" blood collection sets introduce a higher probability of clotting and fill volume problems, i.e. rejection of specimens. Here's why:

## Clotting:

The BD (Becton Dickinson) Vacutainer® collection tubes supplied by the DSHS lab contain anti-coagulant sprayed inside the tube. If properly inverted according to manufacturer's instructions, the anti-coagulant will mix well with the specimen and prevent clotting in the tube. The winged collection sets do not contain anti-coagulant in the tubing, and clotting can begin before the specimen reaches the EDTA coated Vacutainer®.

## Incorrect Fill Volumes:

BD Vacutainer® collection tubes contain a precise amount of vacuum. To fill the 2mL draw tube, the DSHS laboratory requires that specimens be collected according to manufacturer's package insert. The manufacturer's package insert for the BD products supported by the DSHS laboratory references NCCLS document A3-A5 which states that each tube not falling within the +/- 10% of labeled draw shall be deemed defective. (See fill volume variance diagram, page 5). When you connect a winged collection tube to the Vacutainer®, the vacuum first draws the dead air out of the collection tube: a 12 inch winged tube set has about half a mL of air. In this case, your 2mL draw Vacutainer® will draw half a mL of air and 1.5mL of blood – below the allowed variance.

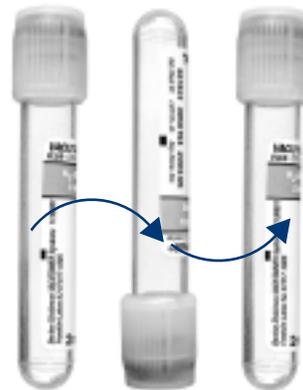
## But if you must:

To reach correct fill volumes using a winged collection set, first attach a "discard" tube and let it draw all the air out of the winged tubing. Let a couple of drops fall into the discard tube then remove it and dispose of it. Attach a fresh Vacutainer® and let it fill to the correct amount, using the entire 2mL of vacuum to draw blood (not dead air). This important step will help achieve correct fill volume and also maintain the proper blood to anti-coagulant ratio in the Vacutainer®.

## Did you know:

Texas Health Steps-EPSTD requires that a child's first blood lead specimen be sent to the DSHS lab. After that the provider can send specimens to a private lab and Medicaid will reimburse. But remember, the provider is responsible for getting results from a private lab faxed to the TX CLPPP (512-458-7621).

Purple top EDTA tubes must be inverted 8-10 times to mix properly.



One Inversion



K<sub>2</sub> EDTA inside

## The problem with clotted specimens

(and why accurate fill volume and properly mixing the tube are so important):

A blood lead test is a quantitative test, meaning a certain quantity of cells must be present to yield accurate test results. Blood lead resides in the red blood cells. A clot ties up a large proportion of red cells in a specimen. If the clot is removed from a clotted sample, the remaining liquid is likely to give a false low result for both hemoglobin and lead. In other words, a child with a high blood lead level might receive a normal test result from a clotted sample.

- A specimen that misses the tube's stated fill volume will have an incorrect ratio of blood to EDTA anti-coagulant. Too little EDTA can result in clotting (too much EDTA can cause morphological changes in blood cells).
- A specimen that is not inverted according to manufacturer's instructions will not properly mix blood with the EDTA anti-coagulant. Clotting can result. (See inversion graphic above.)

**UPDATE!!**

As of June 19, 2006 (per previous announcements by the DSHS lab) RAM Scientific blood collection tubes will no longer be accepted.

See Question #6.

**DSHS Lab Submission FAQs**

**1. Why did I get a report saying “DSHS specified tube not used”?**

The DSHS lab supplies and recommends only the following purple top tubes:

- For venipunctures the lab supplies 2ml draw BD Vacutainer® K<sub>2</sub>EDTA tubes. (3ml, 4ml, 6ml draw BD Vacutainer® K<sub>2</sub>EDTA tubes are also accepted.)
- For fingersticks, the lab supplies BD Microtainer® tubes, catalogue number 365974. The RAM capillary tube, supplied at one time by the DSHS lab, is still accepted. (See question six.)

**2. How can I avoid getting a “specimen clotted - please resubmit” report?**

The chemical that prevents clotting is sprayed on the inside of the tube and must mix thoroughly with the drawn blood (see question five). BD provides guidelines for inverting the various type tubes to mix the contents with the anti-coagulant. The purple top EDTA tubes need at least 8 to 10 complete inversions – immediately after collection – to mix properly.

**3. Does the DSHS lab accept other catalogue numbers of BD Microtainer® tubes?**

No. The recommended tube is #365974.

**4. Does the DSHS lab accept the BD K<sub>3</sub>EDTA tube?**

No. The preferred anti-coagulant is K<sub>2</sub>EDTA.

**5. What’s the difference between the K<sub>2</sub>EDTA and K<sub>3</sub>EDTA tubes?**

The salts of the chelating agent EDTA are used as anti-coagulants for hematology testing because they preserve cellular components of the blood.

- K<sub>2</sub>EDTA is spray-dried onto the interior of a plastic tube.
- K<sub>3</sub>EDTA is a liquid solution inside a glass tube.

The May 2002 issue of the BD Technical Services Department newsletter, *Tech Talk*, details the clinical differences between the two tubes.

Check the BD site for the *Tech Talk* newsletters as well as wall charts and other useful information. <http://www.bd.com/vacutainer/techtalk/>

**6. Does the DSHS lab still supply the old RAM capillary tubes?**

No, these are no longer supplied, as they don’t always yield enough blood for lead and hemoglobin tests. **As of June 19, 2006, these tubes will no longer be accepted by the DSHS lab.**

**7. Why does the DSHS lab supply only the 2ml draw tubes?**

The 2ml tubes are designed for use in the elderly or infants. Because they have only 2ml of vacuum, they draw slowly and are less likely to collapse small or fragile veins.

**8. Can our staff get a refresher course?**

Yes, BD supplies a video about blood collection, featuring their tubes. This can be ordered from the manufacturer, or borrowed from DSHS lab or Texas CLPPP.

And be sure to order the free Texas CLPPP poster, *Getting a Good Specimen*, which was produced in collaboration with the DSHS lab.

**What are CLIA and CMS?**

**What do they have to do with fill volume problems?**

In vol 4.1 of the Texas CLPPP News, we discussed how stricter enforcement of CLIA (Clinical Laboratory Improvement Amendments of 1988) is affecting providers’ ability to submit venous and capillary specimens at the correct fill volumes. These quality standards are implemented and enforced by CMS, the Centers for Medicare and Medicaid Services. CMS regulates laboratory testing performed on humans in the U.S. through CLIA and covers approximately 175,000 labs.

For a reprint of the entire article, go to <http://www.dshs.state.tx.us/lead/providers.shtm>

Under “Information” click on the link to Texas CLPPP Newsletters and look for page 6 of vol 4.1.

**UPDATE!! New CLIA Requirement**

Specimens submitted for total hemoglobin, hemoglobin type, and lead testing must be tested within 21 days from the date/time of collection.

**Fill volume variances**

**2mL Vacutainer®**

The black fill volume marker on the tube label should be used only as a general guide.

+10% = 2.2mL  
**Stated Fill Volume: 2mL**  
 -10% = 1.8mL

This diagram is not to scale.

You may order from the DSHS lab a “to scale” fill volume guide for all supplied tube types.



A coating tube

When you have questions about:	Ask for:
Program Management and Administration	Program Coordinator
Data management and services	Data Supervisor
(Will call YOU if reporting forms are incomplete.)	Data Entry Coordinator
Lead poisoning in persons over age 14	Adult Lead Coordinator
Following up a specific child's case	Follow-up Coordinator
Data analysis at state and local levels	Epidemiologist
Setting up an environmental investigation	Environmental Specialist
Publications and outreach, web site	Outreach Specialist
Medical Consultation	Nurse



Call today -  
we're here to help!

1-800-588-1248

Prevention, continued from page 1

Non-fiberglass bathtubs are also suspect because of their porcelain glazed surface. If an older bathtub has a degraded surface (possibly from repeated use of abrasive cleansers), and the tub is filled with hot water (which is most likely to leach any lead present), and if a child drinks lead contaminated bath water, a lead exposure can occur. It's not that unlikely: the Vermont Housing and Conservation Board recently reported that 75% of tubs in pre-1978 housing enrolled in the lead hazard reduction program test positive (through XRF testing) for lead in the glaze. A high percentage of the tubs were also found to have detectable lead on a dust wipe sample. The Vermont report suggests practical measures to protect children from lead contaminated bathwater, such as bathing young children in a plastic tub placed within the bathtub.

Until the day comes when we can safely say that lead is no longer used in consumer products (see CPSC article, page 2), Texas CLPPP will continue to keep you updated on the types of products that can pose a threat of lead exposure. ■

**Did you know:**

Federal law requires that contractors provide residents with information about lead before remodeling or renovations are done on pre-1978 housing. The EPA provides a brochure specifically addressing remodeling issues: *Reducing Lead Hazards When Remodeling Your Home*, available at:

<http://www.epa.gov/opptintr/lead/pubs/rpamph.pdf>

**Heavy Metals Found in Traditional Remedies**

A March 2, 2006 article in the Houston Chronicle reports findings of the Houston Health and Human Services Department about several South Asian remedies.

These products are imported from India and Pakistan, and are sold to treat a variety of ailments or to generally "maintain good health."

Though none of the products lists arsenic or lead on the label, all contain one or the other.

Houston HHS employes have begun visiting area stores and asking owners to remove these products from their shelves.

Product Name	Manufacturer
Balrakshak Sogati	Nehar Pharmaceuticals
Triphla	ASFA
Zandu-Sudarshan	Zandu Pharmacy
Balguti Kaseria	Kasery Pharmacy
Balsathi	Vaaidya J.G. Dwivedi
Soma-34	Sheth Brothers
Triphla Guggul	Nahar Pharmaceuticals

NOTE: We are providing this list only as a general guide to the kinds of products that have been found to contain lead. Remember that products appear and disappear from the market frequently and that their formulations may change.

### Did you know:

Home remedies continue to poison children and families. These remedies are traditional in parts of Mexico, and a growing number are imported from India and Southeast Asia.

Candies imported from Mexico may contain lead in the candy itself, in the chile coating, or the wrapper.

See articles on pages 3 and 6.

Pediatric primary care providers are encouraged to communicate with a medical consultant experienced in chelation therapy before administering chelation therapeutics.

Chelation therapy should never be administered before a venous confirmation is obtained.

Guidelines recommend chelation only at confirmed EBLLs  $\geq 45\mu\text{g}/\text{dL}$ .

Healthcare providers may contact Texas CLPPP at 1-800-588-1248 for assistance in locating a medical consultant.

Expert guidance is available through the Texas Poison Control Network (TPCN). Established by the Texas Legislature in 1993, TPCN is a network of six regional poison centers established to provide emergency treatment information for poisonings or toxic exposures.

<http://www.poisoncontrol.org/index.htm>  
1-800-222-1222

## The Long Road to Linking ADHD and Lead Exposure

The National Institute of Mental Health credits Dr. Heinrich Hoffman with first describing ADHD in 1845. Dr. Hoffman was a German physician and a writer of children's books as well. His *The Story of Fidgety Philip* is an early appearance in fiction of a child with ADHD.

*Let me see if Philip can  
Be a little gentleman.  
Let me see if he is able  
To sit still for once at table.  
See the naughty, restless child  
Growing still more rude and wild...*

Later, in 1902, English pediatrician Sir George F. Still published a series of lectures (Lancet, 1902; 1:1008-1012) describing impulsive behavior in a group of children. He ascribed the behavior to neurological deficits rather than poor upbringing.

Because ADHD tends to run in families, a genetic link has long been suspected. Studies quoted by the NIMH estimate that 25 percent of the close relatives in families with ADHD also have ADHD, compared to about 5 percent in the general population. In 1999 the Attention-Deficit Hyperactivity Disorder Molecular Genetics Network was formed to allow researchers to share findings about genetic influences on ADHD.

Now a study has indicated that ADHD and its resulting cognitive and behavioral problems may result from a complex interplay of genetic and environmental factors – and the environmental factor examined in the study is lead.

The study's lead author is Tanya Froelich at Cincinnati Children's Hospital Medical Center. The study examined the effect of lead exposure on executive function – the ability to plan and organize activities and behaviors – which is compromised in children with ADHD. A goal of the study was to determine the role genetic factors play in how an individual reacts to lead exposure.

The study looked at the DRD4 dopamine receptor gene (which helps regulate dopamine levels in the brain) and seems to indicate that variations in this gene make children more vulnerable to the effects of lead on certain cognitive functions. For some functions, boys seemed more vulnerable than girls, which is consistent with the higher incidence of ADHD among boys.

More information about the study is at:

<http://www.cincinnatichildrens.org/about/news/release/2006/5-adhd-study.htm> ■



<http://www.dshs.state.tx.us/lead>

**PERIODICALS**

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**Local Health Department CLPPP Programs**

<b>Austin/Travis County</b>	211 Comal Street	Austin, TX 78702	<b>512-972-6652</b>
<b>City of Dallas</b>	4500 Spring Avenue	Dallas, TX 75210	<b>214-670-7663</b>
<b>City of Houston</b>	8000 N. Stadium Dr., 6th Floor	Houston, TX 77054	<b>713-794-9349</b>
<b>City of Laredo</b>	2600 Cedar Street	Laredo, TX 78040	<b>956-795-4951</b>
<b>El Paso City/County</b>	5115 El Paso Drive	El Paso, TX 79905	<b>915-771-5805</b>
<b>Harris County</b>	2223 West Loop South	Houston, TX 77027	<b>713- 439-6126</b>
<b>San Angelo/Tom Green Cty.</b>	2 City Hall Plaza	San Angelo, TX 76903	<b>915-657-4214</b>
<b>San Antonio Metro</b>	911 Castroville Rd.	San Antonio, TX 78237	<b>210-434-0077</b>

