



Frequently Asked Questions (FAQ)

Clinical Guidance on Managing Environmental Exposures

Introduction

This Pediatric Environmental Health Specialty Unit (PEHSU) factsheet was developed to guide healthcare providers as they address health concerns regarding the dumping of construction debris at several locations around Suffolk County from summer of 2013 through the spring of 2014. The impacted sites include Roberto Clemente Park (located on Broadway Ave in Brentwood); a privately owned parcel located at the southeast corner of Route 111 and Sage Street (Central Islip); property at 175 Brook Avenue (Deer Park); and the Veteran's Way cul-de-sac in Islandia. There has also been concern about unrelated debris at the Police Athletic League field in Central Islip.

Environmental tests showed that the debris

contained some contaminants including asbestos at some sites, heavy metals, and pesticides. However, contaminant levels in the debris were generally low and the potential for exposure to the debris was also low for the general public. In addition, we do not expect any adverse health effects in the general public. The impacted sites are all in various stages of remediation, and are being closely monitored to ensure that risk of exposure remains low.

Over the past 12 months, our PEHSU received multiple calls from families and physicians to discuss the potential health impacts of the construction debris. This answers the most frequently asked questions.

1. Construction debris was dumped in sites around Suffolk County. What are components of construction dust/debris?

Construction and demolition materials are the waste materials from the construction, renovation, and demolition of buildings, roads, and bridges. This can often include bulky, heavy materials such as concrete, wood, asphalt, gypsum (drywall), metals, bricks, glass, plastics, salvaged building components, and trees/earth/rock from clearing sites.

2. In general, what health effects can be associated with exposure to construction dust/debris?

In general, debris materials can produce dust made up of particles that vary in size. Visible dust that settles on surfaces is made up of relatively large particles. When breathed in, large par-

ticles do not reach the alveoli; however, they can irritate the eyes and upper respiratory tract. Exposure to large particles can lead to coughing, sneezing, rhinorrhea and dyspnea. Smaller, invisible, dust particles can sometimes be mixed in with the larger particles. Very fine particles can get carried deep into the lungs and can impact lung function and exacerbate conditions such as asthma and heart disease.

3. What is the potential risk of health effects from dust/debris encountered at the Suffolk County sites?

Once the construction debris was discovered at the dumping sites, the sites were contained and treated to reduce risk of exposure to dust and debris (for example, wetting down the debris piles). Close monitoring and surveillance of the sites was done on a regular basis to ensure that the potential for exposure to the debris and dust remained low.

Based on these data, and the assumption that surveillance continues and current conditions remain, we do not anticipate long-term health risks to the general public from the construction dust and debris.

Environmental testing revealed some contaminants in the debris including asbestos and heavy metals, which are discussed in the subsequent questions.

4. Asbestos was found in some of the construction debris. What is asbestos?

Asbestos is a group of naturally-occurring fibrous minerals. Asbestos fibers are strong, flexible, and heat resistant and have been used over the years for a wide range of building materials and manufactured goods such as roofing shingles, ceiling/floor tiles, and insulation. Asbestos that is “friable” (can easily crumble) is of concern because, if disturbed, can release asbestos fibers into the air where they can potentially be inhaled.

Almost all the asbestos containing materials identified at the sites were “non-friable”, which reduces the likelihood of exposure.

5. How can a person be exposed to asbestos?

Inhalation is the main route of exposure to asbestos. We are all exposed to low levels of asbestos in the air, though levels are typically higher in cities and industrial areas. Undisturbed or buried asbestos-containing materials release very few fibers into the air, and people are not likely to be exposed. Higher levels of exposure may occur when the friable asbestos-containing material is disturbed, such as during demolition or renovation work in a building with asbestos-containing materials.

6. In general, what are the health concerns of asbestos exposure?

Generally, morbidity related to asbestos is most commonly seen in employees working in industries where asbestos products were made or used. Typically, these workers have had prolonged intense exposure to high levels of asbestos. Diseases related to asbestos include asbestosis (scarring of the lungs), lung cancer and mesothelioma. Clinical symptoms do not appear until many years after the exposure, typically decades later. If a patient reports symptoms such as cough, wheeze or dyspnea in the days, weeks, months or initial years after a possible exposure, it is much more likely due to common diagnoses such as asthma or a respiratory infection. People with a history of asbestos exposure who smoke have a much greater risk of developing lung cancer.

7. Are there any health concerns from the asbestos found at the Suffolk County sites?

Given that the likelihood of exposure to asbestos at the dumping sites is low, we do not expect there to be asbestos-related health effects in the general public.

Based on the information we have so far about the asbestos found in the dumping sites, the likelihood of exposure to asbestos from these dumping sites is very low since the majority of asbestos was "non-friable." Though the overall general risk is very low, there is some uncertainty about potential exposures that might have occurred at the park when the dumping occurred before the park was closed.

Although some asbestos was detected in the debris (the majority of which was "non-friable"), weekly air monitoring at Roberto Clemente Park and Sage Street sites since May 2014 has shown *no airborne asbestos to date*. Roberto Clemente results are available on the Town of Islip website. Sage Street results are available through the Suffolk County Department of Health Services at 631-854-0088.

8. What can I say to families in clinic who are concerned about asbestos exposure?

We do not recommend any testing for asbestos exposure from the Suffolk County dumping sites, especially since the potential for exposure is very low.

Here is a brief, general review of management of possible asbestos exposure in primary care practice. There is no test that can determine if someone has been recently exposed to asbestos. Chest x-rays are useful only in detecting illness years (or decades) after the exposure, not early on. For this reason, chest x-rays are not recommended to detect possible recent exposure to asbestos. The best way to assess risk from exposure is by taking a thorough history of exposure and by documenting the details about the possible asbestos exposure in their medical record.

For patients who may have been exposed to asbestos, the primary step is to minimize additional asbestos exposure. The next step in managing any potential asbestos exposure is to encourage families to avoid cigarette smoking and exposure to environmental tobacco smoke (ETS). Tobacco exposure can multiply the potential for harm from asbestos exposure alone. If a family needs help quitting smoking, they can visit www.nysmokefree.com or call 1-866-NY-QUITS (1-866-697-8487) or the Suffolk County Department of Health Services at 631-853-3015.

While we do not expect acute symptoms from asbestos exposure, if a patient is currently experiencing respiratory symptoms, we recommend a thorough environmental health history to determine if other exposures are present (such as smoke or allergens) in addition to symptomatic care and medication as warranted to control symptoms. A guide for taking an environmental health history is included in the Environmental Health Resource Guide in this packet.

9. Other chemicals were detected in the soil at the dumpsites. Should we be concerned about their possible health impacts?

Other contaminants were found during testing of the dumpsites including polycyclic aromatic hydrocarbons (PAHs), heavy metals, and pesticides; however, the levels of these contaminants were generally low. The majority of soil samples showed levels that were "not detected" or were at levels below health-based soil guidelines. Many levels of soil contaminants were consistent with "background levels". A small number of soil samples had levels above set guidelines; however, these elevations were minimal and not widespread.

Overall, a person in the community is not expected to have been in direct contact with contaminated soil at levels at which we would expect associated health effects.

For Roberto Clemente Park, the Town of Islip releases periodic bulletins with a summary of these results: <http://www.townofislip-ny.gov/news/news/77-parks-recreation-a-cultural-affairs/2675-brentwood-community-and-summer-program-information>

The Suffolk County Department of Health Services also provides information and updates on its web site for all sites at:

10. Is local drinking water impacted by the dumpsites?

No. Most areas in the vicinity of the dumpsite are served with public water which comes from wells located at a distance from the dumpsites. All public water supplies in the area have been tested by the Suffolk County Department of Health Services and the Suffolk County Water Authority and found to not be impacted by the dumpsites. Some individual homes obtain their water from a private well. The Suffolk County Department of Health Services has tested private wells in the area and did not find them to be impacted by the dumpsites.

In addition, to ensure that our groundwater resource is protected, ongoing groundwater investigations are currently occurring at Roberto Clemente Park and are planned at the other dumpsites. A recent investigation analyzed several groundwater (not drinking water) samples in the vicinity of the Roberto Clemente Park. Some pesticides and heavy metals were detected at levels higher than expected, although sources other than the Park are suspected. Whether the dumping that occurred at the Roberto Clemente Park contributed to groundwater contamination could not be confirmed. The groundwater and the drinking water supply will both continue to be monitored closely, including after the remediation activities.

11. Many families have requested medical testing to see if their family has been exposed to a chemical from the Suffolk County dumping sites. Is any testing recommended?

We do not recommend environmental testing panels or “biomonitoring” for local residents concerned about the dumping sites.

Unfortunately, blood or urine tests for environmental exposures may not provide parents and families with the answers they seek. Many environmental chemical tests do not have known reference ranges for children, lack clinical significance (i.e. it is not known which level is associated with health effects) and cannot pinpoint a specific source of exposure. Also, a patient can have a “positive” result which is actually a typical finding in the general population (given the general widespread exposure to some chemicals in the US environment) and have no associated symptoms.

However, as general guidance and not specific to the Suffolk County dumping sites, targeted testing for a few specific chemicals (such as lead) may be done if a patient shows any concerning symptoms that are associated with a specific toxin or has a known exposure to specific compounds (e.g., exposure to lead paint chips). Testing for any environmental chemical except for lead should be under the direction of a pediatric environmental health specialist or toxicologist.

There is now sufficient human data from occupational and other studies on lead (conducted over the past 30 years) that allow us to identify the levels that carry an elevated risk for health effects. As a reminder, in NY State it is required that all children be tested for lead at age 1 and age 2 years, and lead screening for risk factors should be conducted at least annually until age 6 years or later depending on risk factors.

While the likelihood of lead exposure from the contaminated Suffolk County sites is low, this may be a good opportunity to screen for other sources of lead in the child’s environment (such as old peeling paint).

12. Several local families had environmental chemical testing done in their children. How do I interpret the results that a family brings into the clinic?

It is important to discuss the limitations of environmental chemical testing panels with families. The limitations include: the presence of the chemical or its byproducts does not necessarily re-

veal the source of the exposure, the route of the exposure, or, depending on the chemical, whether the level is associated with health effects. Also, many environmental chemical tests do not have known reference ranges for children.

For test results for pesticides, persistent organic pollutants (such as PCBs), and flame retardants, there can be multiple, widespread sources of exposure that are more difficult to pinpoint. Moreover, while we can determine the level of the chemical or its byproducts in blood or urine, we cannot accurately predict what level is associated with health effects. Complicating the issue is that the biomarkers we are measuring may be short-lived in the blood or urine; therefore, a test may provide a snapshot of exposure at one moment and may or may not reflect the average levels over time.

The PEHSU is available for consults to discuss specific environmental testing results done in your patients.

13. What are the key management strategies for families who are concerned about possible exposures to chemicals at the Suffolk County dumping sites?

Reassure families that risk of exposure to the general public is very low. Continue to take measures to ensure that exposure to the dumping site contaminants remains low. Encourage families to follow posted restrictions at contaminated sites and stay informed about remediation plans.

Take an environmental health history in your patients. A helpful tool to use for environmental health history-taking is the National Environmental Education Foundation (NEEF) history forms, which are available in English and Spanish. They can be found at:
<http://www.neefusa.org/health/PEHI/historyform.htm>

Counsel families on reducing overall environmental exposures in the home and community by using simple steps. These simple steps include frequent hand washing (especially before eating), removing shoes before entering the home, utilizing wet dusting/mopping to clean dust from home surfaces, and ensuring proper ventilation. Families should be encouraged to limit other exposures like cigarette smoking, mold, pesticides, cleaning chemicals, lead based paint. More information on these simple steps can be found in Question 15.

Continue providing routine medical care and developmental surveillance for these families. At each well child care visit, health care providers can monitor for any environmental exposure by doing a history and physical. Preventive measures like developmental screenings can also be done to identify concerns which may require further investigation. In addition, NY State requires that children have a blood lead level at age 1 and age 2.

14. What is being done in the community to monitor contamination and reduce the risk of future exposure?

The four impacted sites are currently in various stages of remediation. The sites are also being monitored to ensure risk of exposure remains low until remediation activities are completed.

For information on remediation activities, contact the NY State Department of Environmental Conservation (DEC), Region 1 Citizen Participation Specialist Aphrodite Montalvo at (631) 444-0249.

In the past several months, there have been community meetings and remediation activities. The Town of Islip website provides detailed information on community meetings, environmental test results, and remediation plans:

<http://www.townofislip-ny.gov/news/news/77-parks-recreation-a-cultural-affairs/2675-brentwood-community-and-summer-program-information>

The Suffolk County Department of Health has released periodic community bulletins to update residents:
<http://suffolkcountyny.gov/Departments/HealthServices/PublicHealth/AsbestosDustExposure-DrinkingWater.aspx>

On-going testing and monitoring is being done at the affected sites. The most recent environmental report (from July 2015) can be found at the bottom of the page at
<http://www.suffolkcountyny.gov>

15. What information can I give families to reduce environmental exposures in everyday life?

Remove shoes when entering the home to reduce the amount of dust/soil brought inside.

Wash your hands, and your children's hands, regularly with basic soap and water. This is especially important before eating.

Use a wet cloth in your homes (countertops, windowsills, tables) to reduce the amount of dust.

Use a wet mop on hard floors and a "High Efficiency Particulate Air" (HEPA) vacuum on carpets.

Wash toys, pacifiers, bottles, and other items your child puts in his or her mouth.

Ventilate your home often by opening windows and using fans to increase air circulation.

For families that are interested in air filters to remove dust, a HEPA filter is the most effective. The air filter should be a model that does NOT generate ozone (a respiratory irritant).

Avoid exposure to cigarette smoke and other tobacco products.

Install fire alarms and carbon monoxide detectors. Test these devices regularly.

Test your home for radon, which is a naturally occurring radioactive element found in the soil in some parts of NY State. Persistent radon exposure is linked to lung cancer. For more information, refer to this guide for NYS residents: <http://www.health.ny.gov/publications/3168/>

Do not heat plastic containers that contain food or beverages.

If a family member works with asbestos containing products or other hazardous materials, they should take precautionary measures such as showering and changing shoes and clothing before getting into the car and going home. This prevents exposing family members to hazardous materials.

Keep up to date with routine well-child checks at the pediatrician's office to document known or possible exposures to environmental hazards. For any acute health concerns, seek medical assistance right away.

For more information, health care providers can speak with an environmental health by contacting:

Mount Sinai Pediatric Environmental Health Specialty Unit (PEHSU)
and the Stony Brook Center of Excellence in Children's Environmental Health

PEHSU@mountsinai.org • (866) 265-6201

<http://icahn.mssm.edu/research/programs/pediatric-environmental-health-specialty-unit>