



Recommendations Related to Health Effects from Chinese Drywall

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The Association for Occupational and Environmental Clinics (AOEC) and its network of Pediatric Environmental Health Specialty Units (PEHSU) have reviewed the issues confronting families coping with Chinese drywall in their homes. A multi-disciplinary team with specialties in pediatrics, occupational environmental medicine, medical toxicology, and industrial hygiene contributed to these recommendations.

While we cannot offer clinical opinions based on the symptoms reported by families we do offer precautionary health guidance to be considered and shared with primary care physicians.

In our review of Chinese drywall investigations to date, the exact cause(s) of these reported health effects have not been determined. Based on data reported by families living in these homes, there appears to be a connection between exposure to Chinese drywall and these adverse health effects. Data from Chinese drywall off-gassing incidents have found:

- Hydrogen sulfide and other sulfur compounds to be present in higher concentrations in some affected homes as compared to homes unaffected by Chinese drywall.
- The sulfur compounds measured were not at concentration levels expected to cause adverse health effects, using measures of short-term or long-term exposure.

However, it is possible that the observed health problems are related to a mixture of compounds (each of which may be present at a low level but which are interacting to produce the reported health effects). Another possible contributing factor may be other compounds or chemicals off-gassing from the drywall that have not yet been detected.

The health effects (respiratory irritation, headaches, malaise/weakness and others) reported by these families are consistent with known health effects from sulfur compounds and with symptoms reported by others living in homes constructed with Chinese drywall. Although some of these health effects are common in the general population, these symptoms are reported more frequently in homes with this drywall.

Until more is learned about Chinese drywall, we recommend taking prudent actions that limits or ends this exposure as soon as possible. We recognize the difficult economic situation families face

in renovating or leaving these homes. However, the health improvements reported by families who have either removed the Chinese drywall or moved out of homes with Chinese drywall suggest that those still living in Chinese drywall homes are likely to experience similar health improvements if they can eliminate this exposure (by removing the product or by moving out).

Summary of Recommendations

The recommendations we offer are based on a general public health approach used in similar exposure issues. However, these actions have not been validated by a specific study involving Chinese drywall homes. We advise:

- 1) Reduce exposure to Chinese drywall to the extent practical.
 - a) *Where possible, if the drywall can be removed and replaced in a safe, approved manner, this is appropriate,*
 - b) *To the extent feasible, increase home ventilation and determine if the symptoms improve,*
 - c) *Reduce the relative humidity in the home to between 40 - 60% (high humidity may influence hydrogen sulfide formation).*
- 2) Minimize environmental factors that aggravate illness symptoms.
 - a) *Eliminate other irritants from the home environment to the extent possible, such as second-hand tobacco smoke and harsh cleaners (e.g. those with a strong odor themselves).*
 - b) *Use high quality air filters on central heating/ cooling systems to minimize dust and other particulate irritants from recirculating throughout the home. Ratings for air filters differ by brand but generally, you should choose the highest rating feasible for your system and circumstances. A better filter will capture more of the dust and particulate irritants.*
- 3) Assistance to help a family cope with stress may be needed. Raising a family and taking care of children is challenging when there are tough economic conditions, and ongoing illness and worry about possible chronic health effects can increase stress and further complicate the health of parents and children. Children can sense stress and become anxious or upset if no one communicates with them. Some children may develop a range of stress-related symptoms. Parents should:
 - a) *Watch for signs of stress such as sleep problems, behavior change, change in school performance, increased fighting with siblings, and substance abuse.*
 - b) *Make their child's physician aware of any signs of stress they observe in their child or teen.*
 - c) *Take steps to talk with their children and help them understand and cope with the situation. Local mental health organizations are good resources to assist parents in helping children cope with stress.*
- 4) Obtain appropriate medical care.
 - a) *Where health effects are present, it is helpful to have medical care coordinated by your primary care physician.*
 - b) *For persistent respiratory health effects the primary care physician may recommend a specialist. Referrals of:*
 - i) *Adults to a pulmonologist and/or environmental medicine specialist may be useful.*
 - ii) *Children to a pediatric pulmonologist and/or pediatric environmental medicine specialist may prove valuable in mitigating the severity of illness.*
- 5) A Pediatric Environmental Health Specialty Unit (PEHSU) can assist families or physicians in identifying pediatric environmental medicine specialists. The PEHSU serving a particular

state can be found at <http://aoec.org/PEHSU/searchbystate.html> or by calling the Association of Occupational and Environmental Clinics at 1-888-347-2632.

6) Medical Monitoring.

- a) *At this time, it is uncertain what environmental factors or health parameters should be monitored. Therefore specific recommendations regarding ongoing monitoring of these situations cannot be made.*

For future information, families and their primary care physicians may benefit from the references below:

* Imported Drywall and Health - A Guide for Healthcare Providers

http://www.atsdr.cdc.gov/drywall/docs/Drywall_for_Healthcare_Providers.pdf

* Imported Drywall Issues – U.S. Consumer Product Safety Commission

<http://www.cpsc.gov/info/drywall/index.html>

* U.S. Department of Health and Human Services: Enviro-Health Links – Imported (Chinese Drywall)

<http://sis.nlm.nih.gov/enviro/drywall.html>

* For clinical advice regarding health effects for children, locate your regional Pediatric Environmental Health Specialty Unit (PEHSU):

<http://aoec.org/PEHSU/findhelp.html>

* U.S. Environmental Protection Agency-Humidity Recommendations

<http://www.epa.gov/iaq/schools/tfs/guide2.html#Interaction%20of%20Sources,%20HVAC%20Systems,%20Pathways,%20and%20Occupants>

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