

# **Toolbox Talks**

## Take-Home Toxins Part 1

### Preventing Take-Home Toxins:

Last year an Australian woman died from Mesothelioma contracted after years of handling & washing her husband's work clothes. Her husband worked in a old power plant during the 1960's & regularly came in contact with asbestos.

This case brings up an issue that many of us don't think about – "take-home" toxins. The fact is that many people work in a job where they can potentially bring work-place hazards home with them. This creates the possibility of inadvertently exposing family & friends to potential health hazards.

In the article, the Australian woman would try to shake out as much dust from her husband's overalls as she could before washing them. What she didn't know was that the dust she was shaking out contained large quantities of asbestos fibers. After years of breathing this "dust" every time she washed her husband's clothes lead to her developing mesothelioma, another name for cancer of the lining of the lung.

A 2000 USA Today article titled "Poisoning the Nest" described the problem this way:

*"A USA TODAY computer database investigation found that employees in more than 35 states have unwittingly transported toxins away from work sites — potentially exposing legions of family members to contaminants such as mercury, radioactive material, beryllium, lead, asbestos, PCBs, pesticides, & arsenic. Toxins have been carried in workers' cars & on shoes, socks, clothes, hair, tools, folders, & briefcases. Although family members may never develop medical problems or come into contact with the contaminants, others have died or now cope with lifelong health problems & fatal illnesses. Children often are in the most danger because of their developing organs & higher metabolic rates, health experts say."*

### Who's Most at Risk:

**What all these articles & government pamphlets make clear is that it's our loved ones that are most at risk from "take-home toxins," primarily young children & the elderly.** The immune system of both of these groups are not as hardy or as efficient as a healthy adult, the former because it's still being developed & the former because of the effects of age. Although our immediate family members are most at risk, there have also been cases of exposure to friends & neighbors as well.

### Prevention:

**For people who work away from their home:** • Use good safety practices to reduce exposure • Leave soiled clothes at work • Change clothes before leaving work • Store non-work clothes away from work clothes • Shower before leaving work • Do not take tools, scrap, packaging, & similar items home • Inform workers • Launder work clothes separately • Prevent family members from visiting the work area

**For people who work in their home:** • Keep work areas & living areas separate • Keep family members out of the work area • Store hazardous substances properly • Dispose of dangerous materials properly • Wash work clothes separately • Inform workers & household members

**NIOSH (National Institute for Occupational Safety & Health) found reports of incidents in 28 countries & 36 states. Such incidents have resulted in a wide range of health effects among workers' families, including respiratory problems, neurologic disorders, & fatal poisonings. About half of the reports have appeared in the last 10 years.**

**Contaminants that have caused health effects among workers' families in the past include:** • **Beryllium:** Nearly 40 reported cases of chronic beryllium disease were

identified among workers' families. • **Asbestos:** Asbestos is a silicate mineral, a fibrous, naturally occurring material of varying chemical compositions. Asbestos is used in well over 3,000 products including building materials & goods. Asbestos reaching workers' homes has occurred worldwide, resulting in all forms of asbestos disease among workers' family members, including over 100 identified deaths from mesothelioma in the United States. Although asbestos is now used less & regulated more, there is still the chance for

exposure among workers' families, especially among construction workers. • **Lead:** Nearly 80 reported cases of workers' family exposure to lead contamination were identified. More than half of the reports on workers' children have occurred since 1990. • **Mercury:** In six reported cases, workers' homes were contaminated with mercury. The occupations of the workers involved included working at a chlor-alkali plant, the manufacturing of

thermometers, & extracting gold at home. • **Arsenic:** Arsenic in mine & smelter dust brought home on a worker's clothing was considered a source of a child's poisoning.

• **Cadmium:** Cadmium in the homes of lead-smelter workers resulted in increased levels in the workers' children. • **Pesticides:** Pesticide poisoning resulted in fatal & nonfatal cases in workers' household members. Most reports occurred before 1980, but three more recent cases exist. • **Caustic farm products:** More than 40 farm children have been poisoned by caustic farm products. • **Chlorinated**

**hydrocarbons:** Family members have been exposed when workers brought these substances home on their clothing. • **Estrogenic substances:** Boys & girls have been affected by hormone-like chemicals brought home on the clothing of farmers & drug-company workers. • **Asthmagens and allergens:** Family members have had allergic reactions to allergens from animals, mushroom farming, grain dust, & other materials. • **Fibrous glass:** Family members have developed irritated skin after their clothing was washed with an insulation worker's work clothes. •

**Cyclotriethylenetriamine (RDX):** One child had epileptic seizures from this chemical brought home on a parent's work clothes. • **Infectious agents:** Family members have caught diseases such as scabies & Q fever from the clothing & skin of workers from hospitals, laboratories, & agricultural facilities.

Although these include the most toxic, don't forget the "extra strength" cleaners & solvents that many people bring home. Many of these "industrial strength" products include ingredients that can be very irritating, if not actually toxic, to children & other family members. Also keep in mind that most "industrial strength" cleaners, for example, typically require the use of Personal Protective Equipment (PPE) such as gloves & maybe even face shields, whereas products designed for home use typically do not. That, in itself, should give you some indication of how harsh the ingredients can be.

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## Take-Home Toxins Part 2



**People can carry hazardous substances home from work especially if they are an industrial worker, or anyone who works for a company where toxic products are produced. They bring home the contamination on their clothes, bodies, tools, & other items. Manufacturer workers & people who work in buildings where a manmade product is produced can unknowingly expose their families to substances that can cause various health effects.**

### Means of Exposure:

- **Work Clothing:** Cases involve beryllium, lead, pesticides, & other chemicals. In some cases, washing machines & dryers contained dangerous levels of the materials, poisoning those laundering work clothes & contaminating other laundry.
- **Tools & Equipment:** Substances brought home on hand tools & other equipment have contaminated homes & vehicles. Cases involved mercury, pesticides, PCBs, & radioactive material.
- **Taking items Home from Work:** Items such as bags, rags, metal drums, & scrap lumber have caused serious & fatal poisonings of family members.
- **The Worker's Body:** Reports document cases where workers passed dangerous materials to their family members by their hands.
- **Cottage Industries:** Twenty-two cases of contamination were found where work was done on home property. Contaminants included asbestos, lead, parathion, & mercury.
- **Farming:** Several cases were found where families lived on the property where the farming was done. These involved pesticides, caustic substances, & a hormone like chemical.
- **Family Visits to the Workplace:** Family members can be exposed to dangerous materials in dust or air through visits to work areas.

### Decontamination:

Prevention is best. Decontamination is difficult and may not be effective. Results depend on the cleaning methods used, the material to be removed, and the surface to be cleaned. Soft materials such as carpet and clothing are the hardest to clean. Lead, asbestos, pesticides, and beryllium are especially difficult to remove. Normal housecleaning and laundry usually do not succeed. Sometimes, even the strongest decontamination methods fail. Decontamination may even increase the hazard to people in the home by stirring materials into the air.

### Decontamination procedures include:

- Air Showers • Laundering • Dry Cleaning • Shampooing • Airing • Vacuuming • Other methods for cleaning surfaces



### How To Protect Your Family From Take-Home Toxins:

Although this list is not complete by any stretch of the imagination, here are a couple of tips to protect your family from take-home toxins:

- **“Decontaminate” before leaving work:** If you work in a job that’s dusty or dirty, make sure you wash-up & possibly shower before coming home.
  - **“Contain” any potential toxins in your work clothes:** Any potential toxins in dirty or dusty work-clothes should be contained by placing the work-clothes in a plastic bag or in a bin with a tight-fitting lid. Many employers require workers to change clothes before going home & provide containment bins for dirty clothes. If yours does not, use a heavy-weight plastic bag to prevent any dust from contaminating your car — & your home — & wipe down the outside of the bag with a wet cloth to remove any dust &/or toxins that might be clinging to the plastic.
  - **Keep work clothes isolated:** Wash your work-clothes separately, & make sure that the washer tub is clean & thoroughly rinsed out before starting another load in order to prevent any cross-contamination to other clothes.
  - **Reduce dust generation when washing.** When handling & washing work clothes, reduce the generation of dust as much as possible. Most take-home toxins enter the body through inhalation, so do NOT shake out the clothes. Get them wet as soon as possible in order to prevent any dust – as well as any potential toxins – from becoming airborne. If you bring your work-clothes in a plastic bag, you might consider hosing down the bag in the front yard as you open it & then proceeding to hose down the clothes themselves. Again, your intent is to reduce bringing in any dust, fibers, & potential toxins into your home.
  - **Wash your hands after handling dirty work clothes:** This one should be obvious.
  - **Don’t bring work solvents or cleaners home:** Leave the “industrial strength” chemical in the work place. There’s just too much risk of your kids being exposed to harsh &/or possibly toxic chemicals in industrial solvents &/or cleaners.
- Like most potential hazards, awareness is the best form of prevention. Knowing what can happen & being proactive to make sure it doesn’t, is your best defense against “take-home toxins.”**

All information found at [www.cdc.gov/niosh](http://www.cdc.gov/niosh), [www.balancedhealthblueprint.com](http://www.balancedhealthblueprint.com), & [ecologygreenworld.com](http://ecologygreenworld.com)