Fact Sheet

Reducing your lead exposure

Lead is a naturally occurring bluish-grey heavy metal found in small amounts in the earth's crust. Lead is an important industrial metal and lead ore is still mined in Broken Hill and transported by rail for smelting in Port Pirie. Although the use of lead in petrol and paint in Australia has been restricted, it can still be found in batteries and some fuels, glazes and coatings.

Due to its widespread historical use in petrol, paint and consumer products, most people live where there are very small amounts of lead in the environment. In communities with a history of mining, smelting, transport of lead ore, high road traffic flow or older residential areas where lead-based paints were used extensively, higher levels of lead may be found in dust and soil.

Exposure to lead can have effects on your health, children and pregnant women being at most risk. There are simple precautions you can take to reduce your exposure to lead.

How can lead affect my health?

Lead is not necessary for our health. It can be harmful to the human body and there is no 'safe' level of lead exposure. Lead can enter the body by breathing in or swallowing lead-contaminated dust.

Lead can cause health problems because it is absorbed into the bloodstream where it can move into body tissues and organs and cause damage. Lead can also be stored in the body's tissues including teeth and bones.

Effects of very high blood lead levels can include headache, confusion, tiredness, stomach pain, convulsions and in some cases death. Long-term exposure to low levels has been associated with symptoms including joint and muscle pain, fatigue and headaches, small increases in blood pressure, and damaged nerve, brain and kidney function. Those with diabetes have a higher risk of adverse effects associated with the kidney.

Children and pregnant women are at most risk from lead. Children are more susceptible to lead than adults because:

- they swallow, absorb and retain more lead in their bodies
- while their brains are developing and growing they are vulnerable to the damage caused by lead.

Lead can pass through the placenta to the unborn child and small amounts can pass through breast milk.

Long-term exposure to low levels of lead has been associated with reduced growth, learning, attention and behavioural problems, hearing loss, delayed onset of puberty and reduced intelligence quotient (IQ) in populations of children.

While most people have been exposed to small amounts of lead, a blood lead level above 5 micrograms per decilitre indicates that you have been or are being exposed to more lead than

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typically found in everyday environments of most communities. In these cases, it is important to determine if you are being exposed to additional sources of lead that might be causing this higher blood lead level so that this exposure can be stopped or reduced.

This is particularly important for children and pregnant women to keep blood lead levels as low as possible.

What should I do if I think I have been exposed to lead?

If you think that you or a member of your family has been exposed to lead you should contact your doctor. Your doctor may recommend a blood test to check your blood lead level. The results of the blood test will help decide what steps might be needed to protect your health.

Pregnant women and children

Pregnant women should advise their obstetrician or doctor that they live in a lead-contaminated area so their blood lead level can be checked along with their routine pregnancy blood tests.

It is recommended that young children living in lead-contaminated areas have a routine blood test to identify if they have been exposed to elevated levels of lead.

How you can be exposed to lead at home

In the home, lead mostly enters the body through the mouth. This usually occurs when hands or other objects become coated with lead-contaminated dust. In workplaces, breathing in lead-contaminated dust is the usual way lead gets into the body. Babies and small children can swallow lead while they play on the ground or floor by:

- eating contaminated soil
- putting hands or feet in their mouth that have been in contact with contaminated surfaces such as floors and carpet
- sucking or chewing toys contaminated with lead-containing soil or dust
- eating chips of flaking old lead-based paint.

Keeping children safe in lead-contaminated environments

The best way to protect your children's health is to prevent lead getting into their mouth where it can be swallowed. This can be done by:

- washing and drying children's hands after playing outside or with pets and especially before eating or sleeping
- encouraging children to eat in high chairs or at a table
- providing a large mat for babies to play on - wash frequently
- washing children's play things regularly with soap and water, especially those used outside
- providing a sandpit filled with clean sand for children to play in and covering the pit when not in use
- reducing dust in and around your home.

Reducing lead around your home

Regular cleaning indoors to remove household dust is important to minimise lead exposure in lead-contaminated environments. However, when cleaning is done using 'dry' methods such as sweeping, dust can be lifted into the air which will re-settle on surfaces later.

The best ways to reduce possible exposure to lead-contaminated dust in and around the house are:

- vacuuming carpets, curtains, furniture and upholstery using a vacuum cleaner fitted with HEPA filter (high efficiency particulate air filter)
- dispose of vacuum dust in the bin, not in the garden
- regularly dust surfaces with a damp duster, especially door and window screens and sills and wet mop floors. Remember that dust gathers in corners and behind furniture and doors
- take care when accessing areas such as ceiling spaces and cavity walls as these can accumulate large amounts of dust
- use door mats and leave shoes outside
- keep windows and doors closed on dry windy days
- seal cracks in walls and between ceiling and internal walls to reduce dust entry
- hose off hard surfaces around the house especially - don't use a blower-vac
- wash and brush pets outside regularly to reduce the dust on their fur
- reduce dust from the garden by covering bare soil with grass, mulch, pine, crusher dust, pavers or some other hard surface
- wash hands after gardening and cleaning and keep and wash dusty gardening clothes separately.

Food

Eating regular well-balanced meals can help to lower the amount of lead that is absorbed, especially in children. Fasting too long, such as missing breakfast, can increase the absorption of any lead-contaminated dust that might be swallowed.

Some important tips are:

- eat a balanced diet and nutritious snacks with the recommended daily intake of calcium, iron and vitamin C
- throw away any food dropped on the floor
- wash dummies and bottles often
- wash and dry hands before preparing food
- lean food preparation areas by wet wiping.

In lead-contaminated environments, home-grown produce can contain lead from contaminated dust carried in the air and deposited on leaves. Leafy vegetables like lettuce, kale and silver beet, spinach and herbs readily collect lead-contaminated dust.

Lead can also be taken up by plant roots from contaminated soil and can contaminate the skin of root vegetables such as carrots, beetroots, parsnips and potatoes.

That is why it is important in lead-contaminated areas to:

- not grow leafy vegetables for eating, especially by pregnant women and young children
- grow all other vegetables in raised beds with clean soil and plenty of organic matter to reduce uptake of lead
- wash fruit, vegetables and herbs before use, and peel root vegetables to remove any lead contamination.

Water

Rainwater can contain lead if you live in an area where lead has contaminated the environment because the roof surfaces collect lead-contaminated dust.

Water contaminated with lead does not smell, taste or look any different to uncontaminated water; the only way to find out is to have it tested.

In South Australia, there are a number of laboratories that can test your water - these can be found on the internet or in directories such as the Yellow Pages. Prices will vary.

Further information for looking after your rainwater tank can be found on the SA Health website: www.sahealth.sa.gov.au.

If you use rainwater for drinking, food preparation or cooking:

- use a first-flush diverter to divert the initial water from a rain event onto the ground
- de-sludge your rainwater tank regularly - inspect for accumulation of sludge every 2-3 years
- keep your roof clean and clear of leaves and debris
- keep gutters clean; consider using gutter screens – check gutters every 6 months and regularly clean all gutter screens.

Swimming, wading and paddling pools can also become contaminated with lead. Use a pool cover to keep dirt, leaves and debris out.

All swimming pools must have a safety barrier that restricts access by young children.

Further information for looking after your pools can be found on the SA Health website: www.sahealth.sa.gov.au.

Paint

People living in older houses (particularly those built before the mid-1970s) may be exposed to lead by swallowing lead paint chips or paint dust.

You can't tell if paint has lead in it by its appearance alone. Lead-based paint can be found throughout the inside and outside of homes and buildings. The greatest exposure risk comes from deteriorating lead-based paint and during renovation of old painted surfaces (for example, during sanding).

It is important to take precautions when renovating and cleaning up afterwards to avoid being exposed to lead-contaminated dust and lead-based paint. Before you start you should read the *Six Step Guide to Painting Your Home* which can be found on the internet: www.environment.gov.au/protection/publications/lead-alert-six-step-guide-painting-your-home.

For more information, including advice on testing paint for lead, refer to the SA Health Lead-based Paint Fact Sheet available at: www.sahealth.sa.gov.au/leadpaintaware.

Occupations and hobbies

People can be exposed to lead when they work in jobs such as mining, smelting, radiator repair or car battery manufacture and recycling and through lead-related hobbies such as lead-lighting, making stained glass, firing and glazing pottery, artistic painting, soldering electronics, fishing and making lead fishing sinkers, and renovating older homes, furniture, cars or boats coated with lead-based paint.

Other sources of exposure

Some imported products can also contain lead, such as toys containing lead or coated with lead-based paint, cosmetics (hair dye, kohl or surma), jewellery, canned food, art supplies, traditional medicines and ceramic cookware where lead can be released from poorly fired clay or glazing during cooking or storage of alcoholic, acidic or hot food. Lead is also found in vehicle batteries, fishing sinkers, shot, ammunition and solder.

For more information

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