

Lead exposure in children and adults

Fact sheet

- Children and adults can be exposed to lead in number of ways including by breathing fumes or dust, or by eating or drinking something contaminated with lead.
- Lead exposure at low levels can affect physical and mental development in children. In adults, it can cause high blood pressure and affect kidney and brain function.
- At high levels, lead exposure can cause seizures, coma and death.
- To minimise exposure to lead at home, clean your house regularly, wash your hands before eating and keep children and pregnant women away when renovating.
- You can minimise exposure to lead in the workplace by using personal protective equipment and washing your hands.
- If you suspect that you or someone you know has been exposed to lead, contact your doctor or your local Public Health Unit on 1300 066 055.

What is lead?

Lead is a naturally occurring metal and is used widely in manufacturing because it is soft and resists corrosion. Lead is harmful to the human body.

How does lead affect human health?

Lead can enter the human body by inhalation (breathing in dust or fumes) or ingestion (eating or drinking). It can affect almost every organ and system in the body.

People with elevated blood lead levels may not show any symptoms, but some symptoms associated with lead exposure include:

- constipation and/or abdominal pain
- anaemia
- headache
- fatigue
- restless legs and arms
- tingling or prickling sensations in skin
- muscle and joint pain
- loss of appetite
- sleep disturbance
- lack of concentration
- abnormal kidney function and kidney damage

- seizures, convulsions, coma and even death.

Lead exposure in children even at low levels can be harmful and can result in decreased intelligence, impaired neurobehavioral development, decreased stature and growth and impaired hearing.

How might I be exposed to lead?

Lead may be found in the following items:

- Paint, especially lead-based household paints used before 1970 in Australia. Paint containing lead is still used in some countries.
- Household dust which may contain lead particles from deteriorating lead-based household paint, contaminated soil or dust brought into the house on your or your pets' feet.
- Soil or dirt contaminated with lead by deteriorating or removed lead-based paint, or through previous industrial activities and mining.
- Water sources if old household pipes which may have been soldered with lead, or if there is leaching of lead from the roof and pipes.
- Rainwater from water tanks if lead containing dust has contaminated the roof or guttering.
- Very old toys and cots with original paint.
- Imported traditional remedies or medicines, cosmetics, ceremonial powders or spices.

You may also be exposed to lead through the following activities:

- Renovating a house built before 1970 where lead paints were used.
- Hobbies such as target shooting (exposure to lead dust), making glazed pottery or stained glass, furniture refinishing, car and boat repair, and casting lead (e.g., to make ammunition, fishing sinkers or toy solders). People can take lead residues into their homes on clothes, skin, hair and equipment.
- Occupations where workers may inhale lead dust or fumes, or ingest dust while eating, drinking or smoking through hand to mouth contact. Examples include:
 - Mining and smelting
 - Work involving sanding, scraping, abrasively blasting or welding directly onto lead based paints (homes, boats, cars and furniture)
 - Recyclers of metal, electronics and batteries
 - Soldering (working with radiators, stained glass and electronics)
 - Manufacturing bullets, ceramics, electronics and jewelry

How can I reduce my exposure to lead?

The following actions can help to reduce lead exposure.

At home

- Wash your hands and face, and scrub your nails before eating, drinking or smoking.
- During home renovations, take precautions to reduce lead dust.
- Take care when accessing areas such as ceiling spaces and cavity walls as these can accumulate large amount of dust.
- Don't allow children, pregnant women or breast-feeding mothers in a house or area where lead

based paint is being disturbed.

- Clean floors with a wet mop and wipe furniture, windowsills and other dusty surfaces with a damp cloth.
- Vacuum carpets, curtains, furniture and upholstery using a vacuum cleaner fitted with HEPA filter and dispose the dust in the bin instead of the garden.
- Use door mats and leave shoes outdoors to prevent dust from coming inside.
- Eat regular well-balanced meals can help to lower the amount of lead that is absorbed, especially in children.
- Be aware that imported products such as Ayurvedic or other traditional remedies, cosmetics, ceremonial powders, spices and toys may be contaminated with lead. It is best to avoid the use of products that may contain lead. For more information see the **Centers for Disease Control and Prevention's advice on lead in foods, cosmetics and medicines.**

At work

- Use exhaust ventilation or wet methods to reduce lead dust exposures.
- Ensure that lead contamination is confined to designated lead process areas.
- Use protective clothing (coveralls, booties, hat, and gloves) and a respirator (meeting the requirements of Australian Standard 1716) when the work might involve lead-bearing dust or fumes.
- Keep immediate work area and lead process area clean and tidy.
- Eat and drink in designated areas that are free from lead.
- Wash your hands and face, and scrub your nails before eating, drinking or smoking.
- Shower and discard contaminated clothing, then change clothing in designated clean areas before going home from high lead risk work.
- Do not sweep or vacuum up dust that may contain lead – use a vacuum cleaner fitted with a HEPA filter instead.

Water

- When water has been left standing for extended periods, flush cold taps for 2-3 minutes before using the water for drinking or cooking. This will lower the level of lead and other metals that may be present. This 'first-flush' of water can be used for washing up, watering plants, or other non-drinking uses.
- Only use water from the cold water tap for drinking and cooking. Hot water systems may contain more dissolved minerals and metals, due to the heating process.
- Ensure that plumbing fittings and pipes comply with AS/NZS 4020 and/or Watermark.
- Do not collect rainwater from roof painted with high lead products (e.g. pre-1970s paint).
- Do not collect rainwater from roofs with uncoated lead flashing or lead washers for roofing screws. As a precaution, existing lead flashing can be painted. Replace lead washers with plastic washers.

Health and varied diet

Regular meals and good nutrition might help lower lead absorption. People who have dietary deficiencies in iron, calcium and vitamin C are more susceptible to harm from lead exposure. Iron-sufficient diets discourage absorption of lead. Calcium competes with lead and can inhibit its absorption. Vitamin C may increase excretion by the kidneys.

Dietary sources of iron, calcium and vitamin C

Sources of iron

- Meat: lean beef, veal, ham, pork, chicken, lamb
- Cereal: iron fortified cereals, wheat germ
- Fish: clams, mussels, oysters, tuna, trout, cod, sardines
- Fruits: dried fruits (apricots, raisins, prunes, dates)
- Eggs
- Liver
- Vegetables (only fair sources): spinach, collard greens, lentils, peas, beans, peanut butter

Sources of calcium

- Milk, ice cream, yoghurt, cheese
- Fish: sardines, anchovies, shrimp, trout, cod, mackerel, tuna, salmon, crab, lobster
- Vegetables: cabbage, collard, kale broccoli, spinach, bok choy, mustard greens
- Fruits: oranges, pineapples, raisins, fortified orange juice

Sources of vitamin C

- Fruits: grapefruit, oranges, cantaloupe, strawberries, juices
- Vegetables: broccoli, green peppers, greens

What to do if you are concerned about lead exposure?

If you suspect that you or someone you know has been exposed to lead, contact your doctor or your local Public Health Unit on 1300 066 055.

What to do if you are pregnant or are considering pregnancy?

Lead ingested by pregnant women can pass through the placenta and affect babies. The following resources are available for people who are pregnant or are considering pregnancy:

- [U.S. Centers for Disease Control and Prevention: Risk factors and Pregnancy](#)
- [Mother to Baby: Lead Factsheet](#) – for pregnancy planning
- [South Australia Health: Protecting your baby from lead during pregnancy and after](#)
- [Pregnancy Birth and Baby: Protecting your child from lead poisoning](#)

For more information

- [NSW Environment Protection Agency](#)
- [SafeWork NSW](#)
- [NSW Fair Trading](#)