

Lead poisoning

Lead is a naturally occurring metal. It is used in industry and, in the past, was added to petrol and household paints. Lead is a hazard when taken into the body by swallowing or breathing.

Common household sources

Common sources of lead around the home include:

- Lead-based paint
- Lead-contaminated soil or household dust
- Lead lighting materials
- Lead sinkers used for fishing
- Lead flashing for roofing materials
- Lead piping or solder
- Lead crystal
- Glazed pottery
- Pewter.

Young children are especially vulnerable

Lead exposure can permanently damage the brain and impair intellectual development. Children under five years of age are especially vulnerable to lead exposure because:

- They frequently put their hands to their mouths
- They absorb more ingested lead than adults (50 per cent compared to 10 per cent)
- Their developing brains are more sensitive to the effects of lead.

Unborn babies are also at risk, since lead swallowed (ingested) by the pregnant mother readily passes through the placenta.

Children with pica – a behaviour that leads them to eat non-food items such as soil, stones or paint flakes – are also at an increased risk of lead exposure.

Symptoms – acute exposure

The symptoms of acute lead poisoning (a high level at one time) include:

- Muscle pains
- Fatigue
- Abdominal pains
- Headache
- Vomiting
- Seizures
- Coma.

Symptoms – chronic exposure

Chronic (long-term or ongoing) exposure to lower levels of lead may produce general symptoms such as:

- Irritability
- Lack of energy
- Loss of appetite
- Learning disabilities
- Poor hearing
- Behavioural problems

- Poor school performance
- Poor coordination
- Impaired growth.

Many of these symptoms could be caused by other conditions so it is important to see a doctor if you have any concerns.

Some children may not have any symptoms at all.

Lead exposure in Australia

The most common sources of lead exposure in Australia include:

- **Paint** – lead-based household paints were used before 1970. Children are particularly at risk during redecoration or renovation, since paint chips may be picked up and swallowed or dust breathed in or swallowed.
- **Air pollution** – sources of airborne lead include the activities of various industries, such as vehicle battery works, iron and steel production, soldering and copper and lead smelters. Vehicles that ran on leaded petrol used to emit (put out) lead in their exhaust. In early 2002, leaded petrol was phased out in Australia.
- **Soil** – soil can become contaminated with lead in a variety of ways, including deteriorating or incorrectly removed lead-based household paints and the previous use of leaded petrol. Industrial activities and mining can lead to high lead levels in soil.
- **Dust** – household dust may contain lead from a number of sources, including deteriorating lead-based household paint, contaminated soil or dust brought into the house on your feet or clothes or on your pets' paws or fur.
- **Food** – storing food in pewter, lead crystal glassware or pottery containing lead-based glazes is not recommended. Imported cans from specialty stores with irregularly soldered side seams may contain high levels of lead. More than 20 years ago, canned foods used to be soldered with lead and certain pesticides used on fruit also contributed to the lead levels in food. Today, legislation restricts lead levels in Australian foods to safe limits.
- **Water** – Melbourne's water supplies only contain minute amounts of lead. Some copper household pipes used to be soldered with lead, which can dissolve into water that may be sitting in these pipes.
- **Hobbies and occupations** – people can take lead residues into their homes on work clothes, skin, hair and equipment after contact with lead in their work or hobbies. Such occupations include vehicle or boat repairs and restoration which use lead-based paints, radiator repairs or battery reclamation, cable stripping and working in a foundry or smelter. Hobbies that involve the use of lead include glazed pottery making, jewellery making, stained glass making and shooting or fishing, especially if it includes making lead fishing sinkers.
- **Toys** – old painted toys (for example, cars or toy soldiers) may contain high levels of lead. Current Australian standards strictly limit the amount of lead in Australian-made or painted toys. However, some imported toys have presented a risk and may do so again. Also, very old cots or second-hand painted cots may contain higher, unsafe levels of lead.

The Department of Human Services (Victoria) can provide advice about lead sources in the home and how to manage them in a way that is safe for your family.

Diagnosis and treatment

Suspected cases of lead poisoning can be diagnosed by doing a blood test.

If you or a member of your family believes they have been exposed to lead, visit your doctor for further advice and a blood test.

The National Health and Medical Research Council (NHMRC) set a national goal for all Australians who do not work in a lead industry. A blood lead level of less than 0.48 mol/L (or 10 g/dL) is recommended. In children with a blood lead level greater than 0.72 mol/L (15 g/dL), personal sources of lead exposure should be checked and action taken to control them.

Your doctor or paediatrician can give you advice about treatment and may recommend retesting to assess the effectiveness of any actions taken.

Prevention

If you think you live in a situation where you may be exposed to lead, following these suggestions can reduce your exposure:

- When redecorating or renovating your pre-1970s home, it is not necessary to remove all lead-based paint. In fact, simply painting over old paint will reduce the amount of lead dust. Pregnant women and children under five should not be present while renovation disturbing lead-based paint is taking place.
- Clean the house regularly and ensure there is no build-up of dust. Wet dust floors, ledges, window sills and other flat surfaces.
- Discourage your toddler from playing in or eating dirt and from putting dirty fingers or toys in their mouth. Wash toys and dummies frequently. Wash children's hands and faces before they eat or nap.
- Wash fruit and vegetables before eating.
- Wash family pets frequently. Don't let them sleep on beds.
- Ensure that children do not have access to peeling paint or chewable surfaces painted with lead-based paint, such as old cots and window sills.
- Old toys may be made of or painted with lead-based paint. If you are unsure, take the safe option and do not give them to children to play with.
- Avoid storing food in pewter, lead crystal or glazed pottery containers.
- Ensure your child's diet is adequate in calcium and iron and avoid high fat diets because they encourage lead absorption.
- If you suspect your plumbing may contain lead, arrange to have the water tested. The National Association of Testing Authorities (NATA) can provide laboratory contact information – their telephone number is (03) 9329 1633.
- Don't work with lead in or around your home. Melting, grinding, sanding or swallowing lead can be dangerous. Follow safety guidelines if making, using or storing lead fishing sinkers and consider using non-lead alternatives.
- Follow the appropriate safety regulations at work if your job or hobby involves the use of lead. Do not bring home lead-contaminated work clothing to wash with the household laundry.

Where to get help

- Your doctor
- Emergency department of your nearest hospital
- Always call triple zero for an ambulance in an emergency Tel. 000
- Victorian Poisons Information Service Tel. 13 11 26 – for advice on lead as a toxic substance
- Department of Human Services, Environmental Health Unit Tel. 1300 761 874 – for health advice about lead issues in the home
- Worksafe Victoria Tel. 1800 136 089 – for health advice about lead in your workplace
- Victorian Environment Protection Authority Tel. (03) 9695 2722 – for advice on safe ways to dispose of lead materials and advice about pollution from lead industries
- Consumer Affairs Victoria Tel. 1300 55 81 81 – for advice on recalled toys or other consumer items containing lead

Things to remember

- Lead is a metal that may be found in the home environment.
- Lead exposure can impair intellectual development and damage the brain if levels are high enough.
- Children under five years of age are at greater risk.
- See your doctor if you are concerned – a blood test may be recommended.
- Contact the Environmental Health Unit (Department of Human Services) about ways to eliminate lead sources in your home.

This page has been produced in consultation with, and approved by:

DHS - Environmental Health Unit

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