

## Lead:



### A guide for schools and early childhood education services

Regional Public Health provides advice to the public about health risks from lead and many other hazardous substances. At times, we are asked to help schools and early childhood centres who have a concern about lead.

#### An introduction to lead

Lead is a metal that is found around us in our everyday lives.

Lead used to be commonly used as an ingredient in products like:

- paint
- petrol
- batteries.

However, many of these products no longer contain lead. Lead was banned from petrol in 1996, and household paint sold today contains very low levels of lead.

The most common way people are exposed to lead today is from lead-based paint. Buildings built before 1970, and especially before 1945, are likely to contain lead-based paint. A study in 1997 found that 52% of early childhood education (ECE) services in the Wellington region contained lead-based paint.

People are exposed to lead when paint that contains lead is flaking, or dust is present from paint removal. When flakes or paint dust settle in the soil, the lead remains in the soil.

#### How can lead affect health?

Lead enters our bodies through eating, drinking or breathing in small amounts of lead in things around us. Our bodies get rid of most of the lead that we take in and it does not affect us. However, some people may take in too much lead and lead poisoning can develop.

Although lead poisoning is less common than in the past, it can still occur. In 2011, New Zealand had 230 notified cases of high lead levels, including nine children. Among these children, the most common risk factor was living in or visiting a house built prior to 1970, followed by eating or playing with soil.

'Lead poisoning' means a person has a high blood lead level. This can affect different parts of the body. Often symptoms are vague, but can include:

- Nervous system changes, which can include depression, irritability, memory problems, sleep problems, headaches, and numbness or tingling in fingers.
- Gut changes, which can include abdominal pain, nausea, diarrhoea, constipation, loss of appetite, and weight loss.
- There is potential for other parts of the body to be affected by very high levels- for example, kidney problems.

Young children are especially at risk of lead poisoning for several reasons. They put fingers and objects (e.g. toys or dirt) into their mouths and these may have lead dust on them- especially after being outside. Some old toys or furniture items may have lead-based paint on them. Young children also absorb more of the lead that their bodies are exposed to, compared to adults. Recent studies show that for children, the blood lead levels that can cause health effects are lower than previously thought. Small effects on brain development are not usually noticeable for an individual child.

It is important to try to prevent lead exposure. This requires knowing what materials contain it, and planning maintenance and removal work carefully.

#### How can we tell if a material contains lead?

The only way to tell if a material contains lead is to have it tested. Testing should be done if paint is flaking or if paint removal work is planned.

It is reasonable to assume that a building built before 1980 will contain lead paint. Even if the building has been painted more recently, it is still likely to have old layers underneath the current paint surface that contain lead paint.

Lead paint testing kits are available at paint and hardware stores. A sample is taken/cut out of the surface and dropped into a liquid which changes colour if lead is present. Alternatively, paint can be tested by a testing laboratory. For testing other materials, Regional Public Health can help advise on where testing can be performed. Regional Public Health also has a service for private households to test paint for lead content.

### What should we do if lead is in our school or ECE service?

Each school or ECE service has a legal responsibility to:

- maintain facilities in good condition
- take remedial action to remove any safety hazards
- protect staff members, students and visitors from health and safety hazards.

The most likely source of lead for a school or ECE service is due to poorly maintained paintwork (i.e. flaking paint) or removal of lead paint that is poorly managed (e.g. paint dust on windowsills or contaminating the soil). If lead paint is present in your school or ECE service, there are steps you can take to keep everyone safe from lead. These include:

- Keep painted surfaces in good condition.
- Use qualified tradespeople for renovation and building maintenance work. Qualified tradespeople know how to protect themselves and others from lead based paint, and how to deal with lead paint.
- Ensure that everyone washes their hands before eating, and ideally after playing outside.
- Make sure that toys are washed frequently- especially those that are used outside.
- Wet-dust (wipe with a damp cloth) all flat surfaces like window sills, floors and ledges, once a week.

### What should we do if we are worried about contact with lead?

Discovering that you or people around you may have been exposed to lead can be worrying. Most of the time there is no health effect, but it is still important to be sure about blood lead levels in cases where significant exposure has occurred. Occasionally very high lead levels require treatment.

If there is concern about exposure to lead, individuals should see their family doctor. The doctor can arrange for a blood test to check the level of lead in the body.

If there is concern about contamination of soil with lead paint flakes or dust this should be discussed with the Ministry of Business, Innovation and Employment (Labour Group), your school property advisor, and/or Regional Public Health. There are options to fix significant contamination levels (e.g. removing a layer of soil, or adding a 'cap' with an extra layer of soil). This decision would be made in consultation with health and safety inspectors, the Ministry for the Environment, the school/ECE service Board and Regional Public Health.

Very occasionally there may be concern about significant levels of exposure to lead for some individuals. It is recommended that these people are seen by their family doctor to see if a blood test is appropriate. Regional Public Health follows up all people who have lead poisoning confirmed by blood test. Regional Public Health can also provide some guidance around the likely level of exposure an individual may have had to lead.

### Examples of education services with lead concerns

An ECE service contacted Regional Public Health with a concern about dust containing lead around their fence line. A neighbouring property was being repainted and the dust/flakes from the preparation were blown over the fence and settled in the playground area. Lead paint was confirmed with testing. Regional Public Health worked with the service, the owners of the neighbouring property, the city council and the MBIE (Labour Group) to modify the site/ techniques to ensure that there was no dust/flaking that could blow over to the ECE service. The risk was considered low and no blood tests were taken.

An ECE service had flaking external paint that was found to be lead-based paint. The risk of lead absorption was considered potentially high. Regional Public Health worked with the service to arrange for the children and staff to have blood tests. All tests were normal.

### Further Information

#### Lead and lead poisoning resource (Ministry of Health)

[www.healthed.govt.nz/resource/lead-and-lead-poisoning](http://www.healthed.govt.nz/resource/lead-and-lead-poisoning)

#### Lead based paint resource (Ministry of Health)

[www.healthed.govt.nz/resource/guidelines-management-lead-based-paint](http://www.healthed.govt.nz/resource/guidelines-management-lead-based-paint)

#### Public Health Unit – Wellington region (Regional Public Health)

(04) 570 9002 (can supply Ministry of Health resources above)

#### Information for schools and early childhood education services

Ministry of Business, Innovation and Employment (Labour Group)  
[www.dol.govt.nz](http://www.dol.govt.nz) or 0800 20 90 20

#### Ministry of Education

[www.minedu.govt.nz](http://www.minedu.govt.nz)