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Our Ref.:

14 July 2015

Dear Doctor,

Quality of Drinking Water at Kwai Luen Estate (Phase 2)

I would like to alert you in view of public concern on the water supply to Kwai Luen Estate (KLE) (Phase 2), 葵聯邨, New Territories.

From the health perspective, long term exposure to lead, which when accumulated in large amounts in the body, may result in anaemia, hypertension, brain and kidney damage. The World Health Organization's (WHO) Guidelines for Drinking-water Quality has set a provisional guideline value of not more than 10 microgram/litre for lead. Lifetime consumption of water that complies with the WHO's guideline value for lead does not represent any significant risk to health. Short term exposure to elevated levels of lead in drinking water unless at very high levels is unlikely to cause acute toxicity.

Notwithstanding the above, residents are recommended to take precautionary measures which include running tap water for a while before drinking or cooking especially if the plumbing system has not been used for some time, for example, overnight. As hot water increases the amount of lead that may leach from the pipe materials, use only water from the cold-water tap for drinking and cooking. Moreover, it is advisable for infants and young children under six years of age, pregnant women and lactating mothers to use alternative source of drinking water such as bottled distilled water.

To better understand blood lead level among the more easily affected population including infants and young children under six years of age, pregnant women and lactating mothers residing in KLE (Phase 2), they could join the

voluntary surveillance for blood test for lead. The Department of Health (DH) has set up a hotline (2125 1122) to answer questions on the effect of lead on health, to provide health tips and to arrange appointment for blood test for the aforesaid more easily affected persons. The hotline will operate from 9:00 am to 9:00 pm daily.

An updated factsheet on health effects of lead is attached for your reference.

Thank you for your attention.

Yours faithfully,



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Health factsheet: Lead content of tap water in Kwai Luen Estate (Phase 2)

This fact sheet on lead and its associated health effects has been produced in view of public concern over water supply to Kwai Luen Estate (Phase 2), Kwai Chung, New Territories.

What is lead?

Lead is a naturally occurring heavy metal which usually presents in very small amounts in the environment. Lead and its compounds may be found in products such as batteries, lead-based paints, lead-containing ceramics, lead solder and leaded petrol. In everyday life, lead generally does not pose a threat to health.

What is the recommended limit of lead in drinking water?

The World Health Organization's Guidelines for Drinking-water Quality has set a provisional guideline value of not more than 10 micrograms per litre for lead. Lifetime consumption of water meeting this guideline value does not represent any significant risk to health. Exposure to the level of lead reported in drinking water in Kwai Luen Estate (Phase 2) is unlikely to cause acute toxicity.

Sources of exposure

1. Occupational

Industries with particularly high potential exposures include construction work involving welding; cutting, brazing or polishing on lead surfaces and application of lead solder; most smelter operations either as a trace contaminant or as a major product; secondary lead smelters where lead is recovered from batteries; and firing ranges.

2. Non-occupational

Lead may be contaminated with hazardous concentrations in lead paint, cosmetics and herbal medicines. Common exposure sources of lead with very low level for general public include urban dust, contaminated food and contaminated water.

Health effects of lead

Lead can enter the human body by ingestion, inhalation and skin absorption. When lead is absorbed into the body in excessive amount, it is toxic to many organs and systems. Significant exposure to lead is associated with a wide range of effects, including various neurodevelopmental effects, anaemia, impaired renal function, high blood pressure, impaired fertility and adverse pregnancy outcomes. Infants, young children (especially

those under six years of age) and pregnant women are more likely to be affected by its adverse effects.

How can one reduce the risk of lead exposure?

1. Run tap water for a while before drinking or cooking, especially if your plumbing system has not been used for some time, for example, overnight.
2. As hot water increases the amount of lead that may leach from the pipe materials, use only water from the cold-water tap for drinking and cooking
3. Since the absorption of inorganic lead via skin is not effective, use of water from Kwai Luen Estate (Phase 2) for any purpose other than ingestion, such as showering, tooth brushing and face washing, should not pose a health threat.
4. It will be preferable for infants and young children who are under six years of age, pregnant women and lactating mothers to use alternative sources of drinking water such as bottled distilled water as an additional precautionary measure.
5. It is safe to use the distilled water to substitute tap water in preparing formula milk, but the same method of preparation including boiling of distilled water should be followed.
6. Mineral water contains levels of mineral which may exceed the requirement of infants and young children, and hence should not be used to prepare formula milk.
7. Avoid exposure to all sources of lead.
8. The domestic water filter generally used in the household setting is unlikely to be effective in screening out lead.
9. Do not allow children to chew or mouth painted surfaces of toys or furniture that may have been painted with lead-based paint.
10. Clean the dust in your house regularly if it might be decorated with lead-based paint, especially when the paint is in deteriorating conditions. Wash children's hands and faces frequently to remove any lead dusts and soil.
11. Keep all lead contaminated / contained products away from children. Some types of pigments that are used as make-up (e.g. surma or kohl) or hair colouring dye may contain lead.
12. Seek advice from medical doctor if you suspect having been exposed to high levels of lead or for prolonged periods, or you have relevant symptoms.

Management of lead poisoning

Whole blood lead level is the most reliable screening test. In general, blood lead level more than 0.24 micromol/L (5 microgram/dL) requires further assessment. Hair and urine tests for lead are not suitable for screening and diagnosis. They are therefore not advisable.

The most important management is to identify and remove the source of exposure. Patients who are symptomatic with high blood levels should be evaluated for further management, including chelation therapy.

Enquiries

The Department of Health has set up a hotline on the incident of Kwai Luen Estate (Phase 2) and residents can call the hotline at 2125 1122. The hotline will operate from 9:00 am to 9:00 pm daily.

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