

### **3. Blood testing for lead and management of a raised blood lead level**

#### **3.1 Can I arrange for a whole blood lead test via the Department of Health?**

If lead level in drinking water of any estate block in the affected public estates was found by water testing conducted by Water Supplies Department to be exceeding the provisional guideline value of the World Health Organization's Guidelines for Drinking Water Quality, children under eight years old, pregnant women and lactating women of that estate block can arrange for a whole blood lead test via the Department of Health.

For those residents who do not meet these criteria, if they have any concerns on health, they should consult their family doctors to make appropriate assessment and arrangements.

#### **3.2 When can we arrange for a blood test?**

For residents of the affected public estates who are children under eight years old, pregnant women and lactating women, they could make arrangements for blood testing via the hotline. The hotline operated from 9:00 am to 6:00 pm between Monday and Friday to receive enquiries. As the blood test service demand for the more easily affected persons has been met, the Department of Health and the Hospital Authority have ceased to provide the dedicated blood test service starting from 30 September 2016.

#### **3.3 How to conduct screening for those with suspected lead exposure?**

Whole blood lead level is recognised internationally as the most accurate and reliable method of screening and diagnosis, for assessing the risk of lead on health. For children, pregnant women and lactating women, a blood lead level equal to or more than 5 ug/dL requires further assessment. For adults, a blood lead level equal to or more than 10 ug/dL requires further assessment.

Using hair and urine samples for screening and diagnosis for lead exposure are not reliable. They are therefore not advisable.

#### **3.4 Why whole blood lead test is only available for children under eight, pregnant women and lactating women?**

In the particular situation, we need to channel limited resources to children under eight, pregnant women and lactating women. When consumed drinking water with lead, young children absorb 4-5 times as much ingested lead when compared with an adult. Moreover, children are at a rapid stage of development, and their developing organs and tissues are more susceptible to the toxic effects of lead. Of note, lead absorbed by pregnant women and lactating women can pass to their fetus and young children. As a precautionary measure, blood test is offered to them. Residents who do not meet these criteria may seek medical advice and make proper assessment and arrangements with their family doctors, if they have any concerns on health.

### **3.5 How can I know the blood test result ?**

Based on the test results, HA will make further assessments and follow-up for those who require further assessment and follow up. Those who have normal blood test results will be informed by the DH.

### **3.6 What are the management measures regarding different whole blood lead levels (micrograms per 100 ml of blood) for children, pregnant women and lactating women?**

#### **For whole blood lead levels below 5 micrograms:**

Blood lead levels are normal, and there is no significant risk to health and no follow-up is required. DH will inform the subjects of the result by telephone and letter.

#### **For whole blood lead levels between 5 and 44 micrograms:**

Borderline raised level and there is potential health risk, and health evaluation and follow-up are required, including lead exposure assessment, health evaluation and follow-up, as well as monitoring of whole blood lead level.

#### **For whole blood lead levels above 44 micrograms:**

Blood lead level is significantly raised. There is risk of lead poisoning. The subjects will require medical assessment and follow-up, including lead exposure assessment, medical assessment and follow-up, as well as monitor the blood lead level.

### **3.7 Why further assessments are only required for people with blood lead levels at or above 5 micrograms per 100 ml of blood (5 ug/dL)?**

Professional staff of the Hospital Authority including paediatricians, obstetricians and gynaecologists, physicians, pathologists and clinical toxicologists, as well as the Department of Health have worked closely to develop a management protocol for persons whose blood lead levels would be found to be abnormal. After detailed review of local and international literature and research by experts, reference value and the care plan have been established. The management team considered it most important for identifying and eliminating the source of contamination, which allows lead in the body to be excreted over time. The key feature of the care plan is to make reference to the blood lead levels detected, and stratify health risk and set out management plans accordingly. For persons with blood lead level less than 5 microgram per deciliter, there is no significant health risk.

### **3.8 What are management measures regarding different whole blood lead levels (micrograms per 100 ml of blood) for adults (Age 18 or above)?**

#### **For whole blood lead levels below 10 micrograms:**

Blood lead levels are normal and there is no significant risk to health and no follow-up is required. DH will inform the subjects of the result by telephone and letter.

#### **For whole blood lead levels between 10 and 50 micrograms:**

Borderline raised level and there is potential health risk, and health evaluation and follow-up are required, including lead exposure assessment, health evaluation and follow-up, as well as monitoring of whole blood lead level.

#### **For whole blood lead levels above 50 micrograms:**

Blood lead level is significantly raised. There is risk of lead poisoning. The subjects will require medical assessment and follow-up, including lead exposure assessment, medical assessment and follow-up, as well as monitoring of whole blood lead level.

### **3.9 My whole blood lead level is high, will chelation therapy help?**

For children, pregnant women and lactating women with blood lead levels above 44 ug/dL and for adults with blood lead levels above 50 ug/dL, chelation therapy may be considered. However, chelation therapy has its risk, thus requiring expert assessment on whether or not to use chelation therapy.

**3.10 I am a lactating mother and I was found to have a borderline raised blood lead level (e.g. slightly exceeding 5 micrograms per 100 ml of blood). Can I continue on breastfeeding?**

The lead level in breast milk is about 3% that of the blood lead level. As such the lead level in your breast milk is below the provisional guideline value of World Health Organization's Guidelines for Drinking-water Quality. In other words, your breastfeeding would be as safe as mother living outside affected area using tap water bottle feeding their babies. However, in order to reduce further exposure to lead, you are advised to use alternative sources of water such as distilled water for cooking and drinking.

30 September 2016