



Hong Kong College of Paediatricians  
香港兒科醫學院  
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**Position Statement of the Hong Kong College of Paediatricians on  
Neurodevelopment of Children with Lead Exposure**

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on behalf of the Developmental-Behavioural Paediatrics Subspecialty Board**

**Endorsed by the Council of the Hong Kong College of Paediatricians  
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Exposure to lead is an important health risk to children. As lead exposure may arise from many sources, it is important that parents are given anticipatory guidance on environment lead hazards which must be identified and controlled, and about activities of young children such as normal hand-to-mouth activities, whereby lead containing materials may be ingested.

Children who have already been exposed to environmental lead with elevated blood lead levels most often do not show any clear physical signs or specific symptoms. Symptoms that do arise are usually subtle, including tiredness, muscle ache, headaches, gastrointestinal issues such as stomach pain, constipation, nausea and vomiting, irritability and difficulty in concentration<sup>1</sup>. Obviously these symptoms can also be caused by many other common illnesses which need to be identified and addressed. More specific deficits reported in association with elevated blood lead levels include cognitive functions such as attention, impulse control, executive function, reading and writing and academic achievement<sup>1,2,3</sup>, as well as other developmental abilities such as visual motor skills, fine motor coordination, balance and social-behavioral modulation<sup>1,4</sup>. However, no “specific syndrome” has yet been identified in relation to lead exposure and poisoning. Furthermore, no special lead level has been demonstrated whereby children’s intellectual development may be affected or not<sup>4</sup>. There is no compelling evidence as yet to indicate that elevated blood lead levels increases a child’s risk for attention deficit hyperactivity disorder<sup>1</sup>.

It must be emphasized that neurodevelopmental or behavioural problems usually have multifactorial aetiologies. Ensuring a currently safe lead free environment is essential<sup>2,5</sup>. For children with developmental delay and a history of lead exposure, enrichment programmes aimed at children with delay from any cause should be effective and recommended<sup>4,6</sup>. Furthermore, provision of a nurturing and stimulating



family environment should contribute to amelioration of any potential developmental effects, and promote optimal and healthy neurodevelopment for these children.

## References

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