Are lifestyle factors linked to raised blood lead levels in lead workers?
Dr William Wheeldin, 2011

ABSTRACT

The toxic effects of lead have been known for centuries and there is increasing evidence of toxicity at low blood levels and of a probable carcinogenic effect. The behaviour of lead workers, in addition to management controls, is increasingly being recognised as important in reducing blood lead levels, particularly in the construction industry.

A cross sectional survey of lead workers in the construction industry who attended for routine annual lead medical examination was carried out and behaviours that were easily identifiable were recorded to determine their influence on blood lead levels.

Fifty-six lead workers were recruited into the study. All were males between the ages of 23 and 59 years and had worked for the same company for over one year. The blood lead level samples ranged from a low of 6 μg/dl to a high of 57 μg/dl with a mean of 27.48 μg/dl and SD of 13.25 μg/dl. There was a significant relationship between nail biting and blood lead level ($p < 0.001$) and beard growth and blood lead level ($p < 0.001$). No relationship was identified between observed hand cleanliness or smoking status and blood lead level but this may be due to the small sample size used in the study and the methodology used to assess hand cleanliness.

Measures aimed at preventing nail-biting and avoiding beard growth in lead workers are supported by this study and advice should be given to this effect in addition to advice about hand hygiene and avoiding smoking when working with lead. Furthermore, it is proposed that management in the lead industry institute policies to ensure that all workers who need to wear a mask are clean-shaven given the low cost and potential benefit of such a policy.