

## **Carcinogens in hairdressers' blood linked to frequency of dye and perm use**

*These products may contain banned aromatic amines; chemical analyses needed*

### **[Exposure of hairdressers to ortho- and meta- toluidine in hair dyes doi 10.1136/oemed-2013-101960]**

The levels of a particular type of carcinogen in hairdressers' blood seem to be linked to how often these professionals use permanent dyes and perming treatments on clients' hair, indicates research published online in ***Occupational & Environmental Medicine***.

This suggests that permanent dyes and perming treatments may contain toluidines, which are subject to a European Union-wide ban in cosmetics on account of their carcinogenic properties, say the authors.

They measured the levels of eight potentially carcinogenic aromatic amines, to include toluidines, in the blood of 295 female hairdressers, 32 regular users of hair dyes, and 60 people who had not used any of these products in the past 12 months.

They focused particularly on haemoglobin adducts in the blood as these give a better indication of the long term exposure to carcinogens.

Levels of these aromatic amines varied considerably from 0-200 pg/g blood, but did not differ significantly between the three groups.

However, among the hairdressers, levels of o- and m-toluidines tended to rise in tandem with the number of weekly permanent light hair colour treatments they applied. A similar trend was seen for perming treatments in respect of o-toluidine levels.

Hairdressing has been classified as an occupation that carries an increased risk of cancer, based primarily on a higher prevalence of bladder cancer than would be expected for the general population. In the 1970s, around 90% of commercial hair dyes contained carcinogenic substances, prompting restrictions on their use, say the researchers.

But given their findings, they suggest that the ingredients of hair dyes and perming products should be analysed to find out if these products continue to be potential sources of toluidine exposure.

And they go on to advise that hairdressers should protect themselves from the risk of absorbing these products through their skin by wearing gloves, and ensure they perform tasks for which gloves can't be worn, such as hair cutting, before the application of any dyes or perms.