

## Banned chemical still used in hospital IVs is linked to attention deficit disorder

By **Amy Ellis Nutt** April 6 at 7:00 AM

A chemical used to make plastic IV tubes and catheters has been linked to attention deficit disorder in children who received treatment for a serious illness, according to a new study.

The tubing and catheters contain plastic-softening chemicals, called phthalates, which have been banned from children's toys and products such as teething rings and soft books because of their potential toxic effects. The chemicals are known to disrupt hormones and have been implicated in everything from asthma to autism.

"We found a clear match between previously hospitalized children's long-term neurocognitive test results and their individual exposure to the phthalate DEHP during intensive care," lead researcher Soren Verstraete, from Leuven, Belgium, told the Endocrine Society.

Verstraete and his colleagues tested 449 children, newborns to age 16, who were treated in pediatric intensive care units and whose care involved between one and 12 medical tubes. They found high levels of phthalates, even among those admitted with only catheters in place. Until the young patients' discharge from the ICU, those levels remained 18 times higher than in a control group of healthy children.

Four years later, the once-critically ill children underwent neurocognitive tests. Adjusting for other risk factors, the scientists found a strong association between high exposure to phthalates and development of attention deficit disorder. The research was repeated with an additional group of more than 200 pediatric ICU patients, and the findings were similar.

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The study concluded that the medical tubing and catheters were "potentially harmful" to children's brain development and function.

"The phthalate exposure explained half of the attention deficit in former [pediatric ICU] patients," Verstraete said at the endocrinologists' conference last week. "Development of alternative plastic softeners for use in in-dwelling medical devices may be urgently indicated."

Congress banned phthalates from children's products in 2008. For those younger than 12, the Consumer Product Safety Commission imposed a permanent ban on three particularly dangerous phthalates, including DEHP, the chemical still used in medical tubing.

The Food and Drug Administration recommended reducing exposure to phthalates in medical devices as long ago as 2002.

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Pulitzer Prize-winning reporter Amy Ellis Nutt covers health and science for The Washington Post.

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