

Babies may absorb smoke residue in home

Posted 8/6/2006 6:44 PM ET

By Liz Szabo, USA TODAY

As any parent knows, crawling babies explore the world by touching — and tasting — anything they can get their wet little hands on.

If their parents use tobacco, that curiosity may expose babies to what some doctors are calling "thirdhand" smoke — particles and gases given off by cigarettes that cling to walls, clothes and even hair and skin. Up to 90% of the nicotine in cigarette smoke sticks to nearby surfaces, says Georg Matt, a professor at San Diego State University.

Preliminary research by Matt and others suggests the same chemicals that leave a stale cigarette odor on clothes and upholstery also can be swallowed, inhaled or absorbed through the skin of non-smokers. Smoke residue may linger for hours, days or months, depending on the ventilation and the level of contamination. In some cases, contaminants may need to be removed by rigorously cleaning or replacing wallpaper, rugs and drapes, Matt says.

Matt cautions that his research needs to be confirmed by other studies. But his work suggests that babies may take in nicotine and other chemicals just by hugging their mothers — even if their mothers never light up next to them.

About 43% of children ages 2 months to 11 years live with a smoker, according to research described in Matt's 2004 study in the journal *Tobacco Control*.

In his small study of 49 infants under 13 months old, Matt found nicotine in the air and dust throughout smokers' homes, even when parents smoked only outside. Tests also found a nicotine byproduct, cotinine, in babies' urine and inside shafts of their hair.

As expected, babies whose parents smoked around them had the highest cotinine levels — nearly 50 times higher than the babies of non-smokers, according to the study.

Smokers who tried to shield their infants had only partial success, Matt says. The babies of parents who smoked only outside had cotinine levels seven times higher than in the infants of non-smokers, the study showed.

Adults also may be exposed to significant smoke residue if they rent cars, hotel rooms or apartments that have soaked up years of smoke, Matt says. He worries more about youngsters, however, because they may be exposed day and night for years.

Children also may be at greater risk because they breathe faster than adults and inhale more chemicals, says Jonathan Winickoff, an assistant professor of pediatrics at Harvard Medical School. Crawling babies may take in chemicals through their skin.

Though scientists have extensive evidence about the damage caused by secondhand smoke, they know relatively little about the potential risks of thirdhand exposure, says Brett Singer, a scientist at California's Lawrence Berkeley Laboratory. "The million-dollar question is: How dangerous is this?" Singer says. "We can't say for sure this is a health hazard."

Matt agrees that doctors should study children — ideally for 10 or 15 years or more — to see whether low levels of smoke residue worsen asthma or harm the development of a child's lungs.