

Baby's first full nappy can reveal mother's smoking

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Meconium, the dark and tarry stools passed by a baby during the first few days after birth, can be used to determine how much the mother smoked, or if she was exposed to tobacco smoke during pregnancy.

Researchers writing in BioMed Central's open access journal *Environmental Health* measured tobacco smoke [metabolites](#) in meconium samples from 337 babies, finding that they correlated well with reported smoke exposure and other markers of tobacco smoke exposure.

Joe Braun, from the University of North Carolina-Chapel Hill, USA, worked with a team of researchers to carry out the study. He said, "Prenatal active and secondhand tobacco smoke exposure is a prevalent environmental exposure that is associated with adverse infant and childhood health outcomes. Biomarkers of exposure, like [serum](#) and meconium tobacco smoke metabolites, are useful to enhance the measurement of tobacco smoke exposure, which is often under-reported".

The researchers found that tobacco smoke metabolites in meconium reflected the duration and intensity of gestational exposure to tobacco smoke. Concentrations were higher and almost universally detected among infants born to active smokers compared to women with secondhand or no exposure.

Speaking about further applications of this research, Braun said,

"Although meconium was not superior to serum as a [biomarker of tobacco smoke exposure](#), it may be useful to estimate gestational exposure to other environmental toxicants that exhibit more variability during pregnancy, especially non-persistent compounds like bisphenol A and phthalates".

More information: A prospective cohort study of biomarkers of prenatal tobacco smoke exposure: the correlation between serum and meconium and their association with infant birth weight, Joe M Braun, Julie L Daniels, Charlie Poole, Andrew F Olshan, Richard Hornung, John T Bernert, Yang Xia, Cynthia Bearer, Dana Boyd Barr and Bruce P Lanphear, *Environmental Health* (in press), www.ehjournal.net/

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