

# EFFECT OF PFOA ON REPRODUCTIVE HEALTH OUTCOMES

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**Background and Aims:** Research on the potential effect of perfluorinated chemical (PFC) exposure and reproductive health endpoints, particularly fetal growth, has proliferated in the past 5 years. Results on pregnancy outcomes have been notably inconsistent. Less extensive information on other health endpoints is available. We examined several reproductive health measures in a sizable number of pregnancies exposed to elevated levels of PFOA.

**Methods:** Two sources of data were used to examine the association between PFOA and pregnancy outcomes: (1) A survey of residents conducted in 2005-2006 included a complete reproductive history from women, combined with residential history information and estimated historical exposure to assign PFOA blood levels to the mother at the time of pregnancy. (2) Birth records from residents of the area were obtained from health departments for the periods and places when geographic identifiers (Zip Code or street address) were computerized, then linked by space and time to estimate blood PFOA level at the time of pregnancy.

**Results:** Estimated PFOA levels were around background through the 1970s then rose to markedly elevated levels in the subsequent 30 years, with a mean and median of 49.2 and 13.3 ng/ml, respectively, after 2000. The survey of residents identified 41,456 pregnancies, with 9.2% ending in miscarriage and 1.3% in stillbirth. Among live births, 3.8% reported preeclampsia, 12.7% preterm birth, 2.0% term low birth weight, and 3.8% birth defects. Expected associations were found for advanced maternal age and smoking, providing some confirmation of data quality. We will report results on the association between PFOA exposure and these pregnancy outcomes.

**Conclusions:** Given the large study size, elevated exposure levels, and combination of self-reported and record-based assessment, we will have the most extensive information generated thus far regarding PFOA and pregnancy. Limitations include the quality of self-reported outcome information and uncertainty in exposure assignment.