

## Increased risk for an atypical autism diagnosis following Thimerosal-containing vaccine exposure in the United States: A prospective longitudinal case-control study in the Vaccine Safety Datalink.

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### Abstract

**BACKGROUND:** Thimerosal is an organic-mercury (Hg)-containing compound (49.55% Hg by weight) historically added to many multi-dose vials of vaccine as a preservative and still added to some vaccines today. Concerns about the toxic effects from Thimerosal-containing childhood vaccines and the risk of an **atypical autism diagnosis** were evaluated in this study.

**METHODS:** A hypothesis-testing, prospective longitudinal, case-control study assessed exposure to Hg from Thimerosal-containing hepatitis B vaccines (TM-HepB) among cases diagnosed with **atypical autism** (n=164) and controls (n=15,216). Automated medical records for subjects born from 1991 to 2000 and continuously enrolled in the Vaccine Safety Datalink (VSD) database were examined.

**RESULTS:** Cases diagnosed with **atypical autism** were statistically significantly more likely to have received greater overall and dose-dependent exposures to Hg from TM-HepB vaccines administered within the first month of life, first two months of life, and first six months of life than the controls. Similar phenomena were observed when cases and controls were separated by gender.

**CONCLUSIONS:** Routine childhood vaccination is an important public health tool to reduce infectious diseases. The present study provides important epidemiological evidence significantly associating increasing Hg exposure from Thimerosal-containing childhood vaccines and the subsequent risk of **atypical autism diagnosis**, and suggests that Thimerosal should be eliminated from vaccines.

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**KEYWORDS:** Asperger's disorder; **Atypical autism**; Ethylmercury; Merthiolate; PDD-NOSI; Thiomersal

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