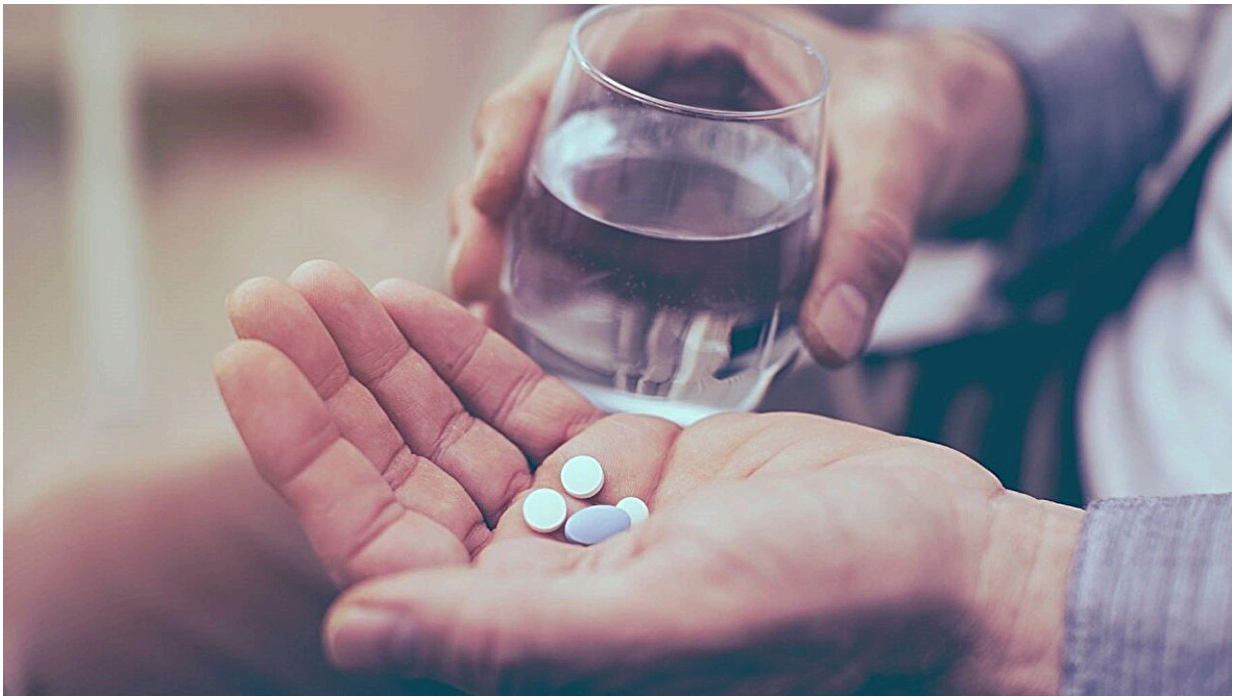


# Paternal metformin use not linked to major congenital malformations

June 18 2024, by Elana Gotkine

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Paternal use of metformin in monotherapy is not associated with an increased risk for major congenital malformations (MCMs), according to a study [published](#) online June 18 in the *Annals of Internal Medicine*.

Ran S. Rotem, Sc.D., from the Harvard T.H. Chan School of Public Health in Boston, and colleagues examined the association between

paternal [metformin](#) use during spermatogenesis and MCMs in newborns to assess the potential adverse intergenerational effect of metformin in a nationally representative cohort study. Data were included for 383,851 [live births](#) that occurred in 1999 to 2020.

The researchers found that the prevalence of cardiometabolic morbidity was substantially higher among fathers who used metformin during [spermatogenesis](#) and their spouses compared with unexposed fathers.

The crude odds ratio for paternal metformin exposure in all formulations and MCMs was 1.28 (95 percent confidence interval, 1.01 to 1.64), but the odds ratio after adjustment was 1.00 (95 percent confidence interval, 0.76 to 1.31). The adjusted odds ratio was 0.86 (95 percent confidence interval, 0.60 to 1.23) and 1.36 (95 percent confidence interval, 1.00 to 1.85) for metformin in [monotherapy](#) and for metformin in polytherapy, respectively.

"Future research should examine the intergenerational effects of paternal cardiometabolic morbidity and related drug treatments while applying specific focus to polytherapies and aiming to disentangle potential drug-related effects from effects exerted by the underlying clinical indication," the authors write.

**More information:** Ran S. Rotem et al, Paternal Use of Metformin During the Sperm Development Period Preceding Conception and Risk for Major Congenital Malformations in Newborns, *Annals of Internal Medicine* (2024). [DOI: 10.7326/M23-1405](https://doi.org/10.7326/M23-1405)

Sarah Martins da Silva, Paternal and Maternal Metformin Use and the Risk for Major Congenital Malformations, *Annals of Internal Medicine* (2024). [DOI: 10.7326/M24-0883](https://doi.org/10.7326/M24-0883)

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