

GENETICS

IVF EINE ZEITBOMBE?

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Translation

Since there are so many IVF treatments in Germany (12,000 IVF treatments for 785,000 births per year), it would be interesting to know what late effects there are for IVF children once they have survived low birth weight and congenital defects. However, answering this question is not entirely easy for two reasons.

First, there are no IVF children older than 40 years, so there is no experience with typical diseases that occur after the age of 60.

And second, there are various parental diseases that led to IVF in the first place, but cannot be attributed to the IVF procedure itself. Furthermore, IVF mothers are significantly older than average, which in itself poses a health risk to the children.

At least in theory, IVF is not entirely risk-free for the embryo, as hormones and an artificial medium are required, which mainly affect the methylation status of the embryos (there are several studies on this, the most important one from 2015). Strangely enough, there is very little clinical literature on this topic, and no information is available from the German IVF Register. The Register wrote to me on December 31 that evaluations of late effects are not yet part of the standard evaluations of the German IVF Register (D·I·R). Is the Register with its fancy pictures primarily used for PR purposes?

The lack of a study base was also recently noted by Independent. The last medical IVF review is unfortunately somewhat outdated. The risks described are primarily depression in early adulthood, alcoholism, high blood pressure, elevated fasting glucose, increased BMI, premature bone aging, and thyroid diseases. Hypertension sounds harmless but is considered a symptom of premature vascular aging. In fact, regular follow-up examinations after IVF should be conducted, preferably as part of clinical studies. Not without reason, the guidelines for assisted reproduction are currently being completely rewritten because the old ones were obsolete.

Postscriptum 4/2/2025

[FAZ](#) has an overview article that includes risk like Beckwith-Wiedemann syndrome and heart birth defects along with cleft lip/palate, and misplaced urethra. While 4.6% of naturally conceived children have such defects, the rate for IVF children is 6.1% according to a [2024 study](#).

To eliminate such uncertainties, German researchers have been following hundreds of ICSI offspring in a unique long-term study since birth, comparing them with children conceived naturally. The project began at the University of Lübeck. The 274 participants in the most recent publication from 2020 were already an average of 16 years old. ... The girls developed normally during puberty but had slightly higher blood lipid levels. In the boys, hormone levels were slightly altered, and they weighed more. In some cases, there were indications of testicular dysfunction, the researchers wrote. This could be due to the fact that ICSI allows men with defective sperm to father children. Their potentially damaged Y chromosome is passed on to their sons. However, whether this means the boys will also be infertile cannot yet be determined.

<https://pubmed.ncbi.nlm.nih.gov/32240284/>

<https://pmc.ncbi.nlm.nih.gov/articles/PMC10328861>

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