

Steroid hormone could reduce risk of preterm birth for high-risk single baby pregnancies

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Taking progestogens—steroid hormones—during pregnancy could reduce the risk of preterm birth in high-risk single baby pregnancies, research has shown.

Although these compounds have been in use for some time, results of individual clinical trials investigating their effectiveness in preventing [preterm birth](#) have been conflicting, and so further evaluation of the research evidence was needed.

University of York researchers led the Evaluating Progestogens for Prevention of Preterm Birth International Collaborative (EPPPIC) project, a [systematic review](#) which brought together and re-analyzed datasets from 31 clinical trials of progestogens, including more than 11,000 women and 16,000 [babies](#) worldwide.

Reliable information

Professor Lesley Stewart, the project principal investigator and Director of the University of York's Centre for Reviews and Dissemination, said: "Babies born preterm are at greater risk, of [health problems](#) during infancy and of death during their first year. It is therefore essential to have reliable information about how well these interventions work, and for this we need systematic and rigorous evaluation of large amounts of data.

"We hope that our findings will help inform shared decision-making between clinicians and expectant mothers who are considered at high-risk of preterm [birth](#)."

Data was obtained from trials of vaginal progesterone given as a gel or pessary, and from trials of 17-OHPC, given as an injection. The project looked separately at trial data from twin and triplet pregnancies. It is the first meta-analysis using raw data from individual pregnancies of 17-OHPC in single baby pregnancies and the first to examine both compounds together.

34 weeks

Both vaginal progesterone and 17-OHPC reduced the risk of preterm birth before 34 weeks for high-risk single baby pregnancies—mostly for women who had experienced a previous preterm birth or had a short cervix in their current [pregnancy](#).

There was a consistent benefit for other outcomes including fetal and baby deaths and serious neonatal complications, including infection and lung and eye problems.

In contrast, analysis showed no evidence that either vaginal progesterone or 17-OHPC was useful for twin or triplet pregnancies with no other risk factors.

Professor Zarko Alfirevic, coordinating editor of Cochrane Pregnancy and Childbirth and member of the EPPPIC Secretariat, said:

"Consistency of the results across so many different [trials](#) is quite remarkable and should be very reassuring to clinicians, but even more importantly to pregnant women and their families."

More information: Lesley A Stewart et al. Evaluating Progestogens for Preventing Preterm birth International Collaborative (EPPPIC): meta-analysis of individual participant data from randomised controlled trials, *The Lancet* (2021). [DOI: 10.1016/S0140-6736\(21\)00217-8](https://doi.org/10.1016/S0140-6736(21)00217-8)

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