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Media Release

Ensuring the effectiveness and safety of steroid use in pregnancy

Friday, 22 May 2020

A Western Australian-based research program aiming to optimise steroid use in pregnancy has continued to refine this critical intervention for treating preterm birth whilst minimising any potential side effects of excess exposure.

The research collaborative, including scientists and doctors in Perth, Cincinnati (USA) and Sendai (Japan), have theorised that individual differences in maternal and fetal steroid exposure would contribute to effectiveness of steroid treatments.

Findings published this week in the prestigious medical journal, *The American Journal of Obstetrics & Gynecology*, have shown that in preterm lambs, fetus or pregnancy-specific factors, as opposed to steroid exposure, may be responsible for the effectiveness of antenatal steroid treatments.

Local Chief Investigator, Professor Matt Kemp, said the latest finding represented another significant step forward for the use of steroids in pregnancy.

"Antenatal steroids are standard of care for women judged to be at imminent risk of preterm delivery," Prof Kemp said.

"They assist in rapidly mature the fetal lung, making breathing easier and safer for preterm babies, has been responsible for saving the lives of countless thousands of preterm babies."

Up until recently steroid use in pregnancy has never been optimised, meaning that since the 1970s a 50kg woman early in pregnancy is given the same dose of steroids as a 100kg woman close to term.

"Worldwide, there is significant variation in antenatal steroids dosing strategies and selection for treatment criteria," Prof Kemp explained.

"This means that treatment efficacy is highly variable and the rate of respiratory distress syndrome is decreased perhaps as little as 40 per cent. In some cases, antenatal steroid use is associated with limited benefit and potential harm for both mother and baby."

"Our findings suggest that the effectiveness of antenatal steroid therapy is not solely determined by steroid levels and that differences may be due to fetus or pregnancy-specific factors that modify individual steroid responses."

This work has been supported by GlaxoSmithKline-Save the Children, the Bill and Melinda Gates Foundation, the Channel 7 Telethon Trust and the Women & Infants Research Foundation.

The Paper, *Variability in the Efficacy of a Standardized Antenatal Steroid Treatment is Not Due to Maternal or Fetal Plasma Drug Levels. Evidence from a Sheep Model of Pregnancy*, can be viewed online at *The American Journal of Obstetrics & Gynecology* here: [https://www.ajog.org/article/S0002-9378\(20\)30559-7/fulltext](https://www.ajog.org/article/S0002-9378(20)30559-7/fulltext)

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Media opportunity:

Professor Matt Kemp is the Head of WIRF's Perinatal Research Laboratories and is available for interview and follow-up media comment. You can view his [WIRF researcher profile here](#).



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Background:

The Women and Infants Research Foundation

The Women & Infants Research Foundation is one of Australia's leading medical research institutes dedicated to improving the health of women and infants. We focus our research and programs across four principal areas: the prevention of preterm birth, gynaecological cancers, women's mental health, and the development of an Artificial Womb. Our research and programs have directly contributed to a number of improved clinical practices and health outcomes.