

First screening test for common pregnancy complications

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University of Adelaide reproductive experts have developed the world's first screening test which can predict a woman's risk of developing one or more of the four common pregnancy complications.

Researchers at the University's Robinson Research Institute have developed algorithms (or calculations) that combine subtle variations in DNA sequences in genes involved in placental development with clinical, socioeconomic, lifestyle and family history data that can predict a woman's risk of having a pregnancy complication.

Professor Claire Roberts says this new screening test can be used in early pregnancy and will allow clinicians to initiate treatments for [women](#) at

risk earlier, helping to reduce the severity of, or prevent, the complications.

"On average, 25% of first pregnancies in Australia are affected by one of the four major complications: preeclampsia, preterm birth, intrauterine growth restriction and gestational diabetes," Professor Roberts says.

"The health issues for babies whose mothers experience [pregnancy complications](#) range from childhood obesity, mild learning and behavioural problems to severe disabilities such as cerebral palsy, intellectual handicap and blindness or even death. The women and babies affected by these complications are also at higher risk for developing adult onset diseases, including cardiovascular disease and type 2 diabetes.

"The screening test identifies a woman's risk for pregnancy complications and what those complications may be, which allows for earlier intervention and treatment. For example, if it is identified in [early pregnancy](#) that a woman is at risk of developing preeclampsia, low dose aspirin before 16 weeks' gestation could delay the onset of the condition or prevent it completely," she says.

Professor Roberts says early trials of the screening test have been highly successful.

"The algorithms have been developed in over 3,200 pregnant women in Adelaide and Auckland (New Zealand) and successfully identify each [woman's](#) risk of developing one of the four major pregnancy complications," Professor Roberts says.

"The next step is to test women right across Australia and commercialise the algorithms so that they can be offered to pregnant women by

clinicians from all over the world," she says.

Provided by University of Adelaide

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