World-first to predict premature births

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Australian researchers and a pathology company have joined forces to develop a world-first computerised system which may reveal a way to predict premature birth with greater accuracy.

The University of Melbourne, the University of Newcastle and Symbion Pathology are combining expertise in medical research, engineering and pathology to develop a computer program to predict women at risk of a premature birth.

About 17,000 pre-term births occur in Australia each year. Premature birth is responsible for 70 per cent of new born baby deaths and 50 per cent of cerebral palsy cases.

According to Professor Roger Smith from the University of Newcastle*, identifying patterns in hormone levels could be the key to determining high risk pregnancies.

"The mechanisms that regulate the onset of human labour are still unknown, which makes it difficult to predict the event. However by detecting patterns in hormone levels, we could see when a pregnancy was going 'off course'," said Professor Smith.

"This would identify women who may benefit from medical treatments currently available to prevent premature birth."

Professor David Smith from the Melbourne School of Engineering at the University of Melbourne recently received an Australian Research Council (ARC) Linkage Grant of $390,000 to fund the project for three years.

"We are creating software and other computational methods to analyse pathology samples, determine patterns in blood hormone levels, and display the results," Professor David Smith said. "The program will not only identify women at risk of giving birth early - it will also identify women not at risk, who could have their pregnancies managed by midwives in hospital or a home birth setting."

Researchers hope to have the computer program fully developed in three years. Once completed, it will be tested by Professor Roger Smith and his team at John Hunter Hospital. Both researchers paid tribute to Symbion Pathology, whose support has allowed this research.

"Symbion Pathology's backing has been critical to this project. Symbion has provided equipment, personnel and test results, which have enabled us to develop early findings and attract funding through ARC Linkage Grant scheme," Professor Roger Smith said.

Source: University of Melbourne