

## Innovative idea delivers good news for expecting mothers

By Amy Sanders

Thanks to an exciting new medical discovery by Professor Roger Smith of the University of Newcastle, development is now under way for a new diagnostic test that will predict when a woman will go into labour.

After 20 years of research, Professor Smith and his team have discovered that the ratio of two hormones in the blood is likely to be a very significant factor contributing to the onset of labour. By testing women for the ratio of these hormones, Professor Smith believes that it will be possible to predict which women are close to delivering their babies and which women are not.

In Australia around 300,000 babies are born each year, with approximately 7% born prematurely, before 37 weeks gestation. Premature birth can result in serious adverse health outcomes for babies such as cerebral palsy, intellectual disabilities and blindness. A test such as the one Professor Smith is developing could potentially improve the health outcomes for mothers and premature babies by allowing better preparation for, and possibly prevention of, their early delivery.

"In underdeveloped countries the most common reason for a pregnant woman dying is that she could not get to medical care at the time of her child's birth. We hope to develop a cheap effective test to show when birth is imminent, to allow more women to get the care they need," said Professor Smith.

With the help of Newcastle Innovation and the Hunter Medical Research Institute (HMRI), a \$205 677 grant has been secured from Commercialisation Australia to fund the project, along with a matching investment from the Medical Research Commercialisation Fund, bringing the total project funding to over \$436 000.

"Raising Commercial funds for early stage research is a challenging process. This project has all the right attributes for commercial success and is a credit to Professor Smith and his research team" said Chris Kelleher from Newcastle Innovation.

Having secured the venture capital funding, Professor Smith and his team hope to build upon their initial discovery in order to develop within the next five years the diagnostic test that will save time, money, and lives.

"As well as being an exciting investment opportunity, it's great to support leading research from HMRI" said Dr Melissa McBurnie, investment manager from the Medical Research Commercialisation Fund.

"As well as the potential to improve the outcome for premature babies, this test could also help obstetricians to predict when their patients will deliver their babies, a question also at the forefront of the minds of many pregnant women towards the end of their pregnancies".

The major benefit of this potential product is that it will enable doctors to make better informed decisions about their patient's care. This will lead to cost savings in the healthcare system, such

as reducing the costs associated with caring for premature babies, and also saving the cost of an induction of labour which may be unnecessary if a woman is already close to giving birth.

The product may also save the time and costs associated with unnecessarily having women in hospital who are not close to delivering their babies, as doctors will have the ability to determine whether labour pains may simply be a 'false alarm.' In addition, this innovation may allow women in remote areas or underdeveloped countries to find out when they must seek hard-to-access medical attention, potentially saving the life of their baby, as well as their own.

So far over 500 women from John Hunter Hospital have participated in the initial research, and starting in July 2010 a more advanced series of studies will begin with volunteers recruited from the John Hunter Hospital.

"HMRI is delighted that our first application to the MRCF has resulted in the significant proof-of-concept funding for this opportunity and gone on to attract additional funding from the inaugural grants' round from Commercialisation Australia," said Professor Maree Gleeson, Director of HMRI.

"This Australian innovation has exciting prospects both in a commercial and humanitarian sense, as it has the potential to greatly advance the care of women during pregnancy around the world."

Professor Smith is Director of the Mothers and Babies Research Centre, Co-Director of the University of Newcastle's Priority Research Centre in Reproduction, and Professor of Endocrinology at the John Hunter Hospital.

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