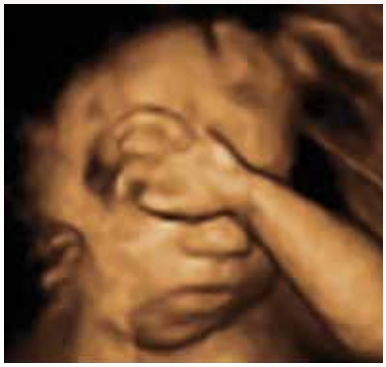
FETAL FUTURES PROGRAM



The Fetal Futures Program was commenced in 2007 as a joint research venture between the Women and Infants Research Foundation and Channel 7 Telethon Trust to assess the long term outcomes of children who have problems in fetal life requiring medical interventions prior to delivery or soon after birth. Over the past six years the Fetal Future multidisciplinary team has successfully completed two long term follow-up studies and is currently in the process of completing a third.

The first study involved assessment of children who had required blood transfusions prior to birth secondary to the presence of maternal antibodies directed at antigens on the fetal red blood cells. Subsequently, the long term physical and neurodevelopmental outcomes of children born with gastroschisis, a birth defect in the anterior abdominal wall, were evaluated. The outcomes of these two projects have been presented at international scientific meetings and are either published or currently under review in medical journals. The third project, which will be successfully completed by the end of 2013, involves the assessment of children born with congenital diaphragmatic hernia. Diaphragmatic hernia is a very serious birth defect in which the abdominal organs are displaced into the fetal chest due to a defect in the diaphragm which normally separates the thoracic and abdominal structures. A multidisciplinary team of investigators including respiratory physiologists from the Telethon Institute for Child Health Research, paediatric cardiologists, radiologists and paediatricians have combined to perform a thorough assessment of the children and age-matched controls.

The Fetal Futures research team are currently planning another research program, on this occasion to return to our fundamental roots of prenatal diagnosis. There has been great excitement with the development of non-invasive genetic technology to assess pregnancies for the presence/absence of serious genetic conditions without the need to perform invasive diagnostic techniques such as amniocentesis or chorionic villus sampling. These new non-invasive prenatal diagnostic tests may be performed with no risk to the fetus and use next generation genetic sequencing techniques to rapidly sequence large amounts of DNA. In a proof of concept project, we aim to evaluate blood from women who are having a chorionic villus sampling for genetic conditions such as Duchenne muscular dystrophy so as to evaluate the capacity for non-invasive diagnosis of these conditions. If successful, this project has the capacity to dramatically alter how prenatal diagnosis for monogenic disorders is provided.

The research team of the Fetal Futures Program is grateful to the children and their families who have participated in our studies and to Channel 7 Telethon for their fiscal support of this research endeavour.

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Sponsors

Women and Infants Research Foundation
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