

News Release



Embargoed until 10pm Wednesday 15 November 2006

14 November 2006

HRC's Liley Medal awarded for work on neurodevelopmental risk in preterm infants

Predicting neurodevelopmental risk in children born very premature has earned Associate Professor Lianne Woodward from the University of Canterbury the Health Research Council of New Zealand's (HRC) prestigious Liley Medal for health research.

The Liley Medal is awarded annually by the HRC, recognising an individual who has published a research study that has made an outstanding contribution to health and medical sciences.

Children born very preterm (less than 33 weeks gestation) are at a high risk of later neurodevelopmental disability, such as cerebral palsy, severe cognitive delay and learning and behavioural difficulties.

Associate Professor Woodward has found that the use of magnetic resonance imaging (MRI) will significantly improve the early identification of those preterm infants at greatest neurodevelopmental risk. Early and accurate identification of these children is essential to ensure their longer term health and development is optimised.

From her research, Associate Professor Woodward has found that cerebral abnormalities on neonatal MRI, especially in the developing white matter, are associated with increased neurodevelopmental risks for the premature infant. These abnormalities were detectable by 40 weeks gestation using MRI.

Level 3, 110 Stanley Street, Auckland PO Box 5541, Wellesley Street, Auckland, New Zealand
Telephone 64 9 303 5200 Facsimile 64 9 377 9988 Website www.hrc.govt.nz

Importantly, these abnormalities were stronger predictors of later severe neurodevelopmental disability than traditional clinical risk factors such as gestational age, birth weight and abnormal ultrasound findings.

Along with these findings, the research has provided valuable data on the rates of severe neurodevelopmental impairment amongst children born very preterm in New Zealand.

This research will have implications on public health strategies for these children and their families and the services available to them. It also contributes to the international understanding of why children born early are at increased risk of neurodevelopmental problems.

Associate Professor Woodward's research was published in the *New England Journal of Medicine* in August 2006.

"I feel very honoured to receive this most prestigious award on behalf of my co-authors and the many families who have so generously shared their children's lives with us. I also feel very proud that this New Zealand study has received such international recognition," Associate Professor Woodward says.

HRC Chief Executive, Dr Bruce Scoggins says, "Lianne Woodward's research findings are very exciting, providing an opportunity for improved health outcomes for these high risk children."

The medal was presented to Associate Professor Woodward at the New Zealand Science Honours dinner held on 15 November 2006 by Lady Margaret Liley and assisted by Dr John Hay, Deputy Chair of the HRC Board.

The medal is named after Sir William (Bill) Liley KCMG, BMedSc, MBChB, PhD, FRSNZ, FRCOG to recognise his lifetime contributions to the health and medical sciences.

For further information:

Dr Bruce Scoggins
HRC Chief Executive

OR

Kristine Scherp
HRC Manager Communications

Tel: 09 303 5203

Tel: 09 303 5202

kscherp@hrc.govt.nz

About the Health Research Council of New Zealand (HRC)

The Health Research Council of New Zealand (HRC) is the Government's principal funding and investment agency for health research. It is responsible for investing government monies allocated for health research. The HRC's mission is to improve human health by promoting and funding health science. This includes support for biomedical and clinical research, public health research, health services research and research which addresses the health needs of Maori and Pacific peoples. The HRC also partners with government and non-government organisations to fund targeted, outcome-focussed research across a wide range of sectors and disciplines.

About Sir William Liley

Sir William Liley KCMG, BMedSc, MB, ChB, PhD (ANU), Hon. DSc (VUW), Dip Obs, FRSNZ, FRCOG, Hon. FACOG (1929 – 1983)

Although it is more than 20 years since his passing Sir William Liley's contribution to medical science, particularly in the area of obstetrics, is still celebrated.

Born in Auckland in 1929 Albert William Liley - who always preferred to be known as Bill - was educated at Royal Oak Primary School before moving on to Auckland Grammar where his intellectual capacity began to blossom.

Awarded a University National Scholarship in 1947 Bill Liley distinguished himself at both Auckland and Otago Universities. He was gold medallist in anatomy in 1950, secured a Senior Scholarship in medicine and was awarded the Travelling Scholarship in medicine in 1954.

Instead of taking up the scholarship he headed for the Australian National University where he took up a research scholarship in physiology, working on various aspects of synaptic transmission. Despite being a recently qualified medical graduate he had four papers published in the Journal of Physiology.

Bill Liley returned to Auckland as a Sandoz Research Fellow and in 1958 was awarded a Research fellowship in obstetrics by the Medical Research Council of New Zealand, the HRC's predecessor. From that time until his premature death in 1983 he held a series of appointments with the MRC, including being a council member between 1972 and 1978 and Chairman of the South Pacific Health Committee between 1973 and 1978.

In 1968 Bill Liley was appointed to a personal Chair in Perinatal Physiology at the University of Auckland's Postgraduate School of Obstetrics and Gynaecology. He was particularly attracted to the problems of unborn and newly born children and his major focus became Rh haemolytic disease of the newborn – a major issue in obstetrics. At the time he entered the field perinatal mortality was about 25 per cent.

One of his great contributions lay in extending the use of spectrophotometry of amniotic fluid to a much wider range of potentially affected pregnancies – work that gained him an international reputation. The technique he developed made it possible to identify which baby could be retained safely in utero for a normal gestation period and which should be delivered. As a result perinatal mortality from haemolytic disease at National Women's Hospital fell to 8 per cent.

A CMG in 1967 and was followed in 1973 by a knighthood (KCMG). Sir William's work was also internationally recognised by a variety of organisations. He served as a member of the WHO Expert Advisory Panel on maternal and child health from 1968 until his death. He was an Honorary fellow of the American College of Obstetricians and Gynaecologists and was appointed a member of the International Association for Advice and Research on Mental Deficiency. He also held several other honorary fellowships and memberships of prestigious societies overseas.

An extended biography prepared by Sir John Scott sums up his life in this way:

“Sir William Liley embodied many characteristics which have typified the leaders and giants of scientific endeavour in New Zealand. He combined top-flight intellectual ability with practical skills, humanity and humility. His accomplishments indicated to his generation and those coming after that achievement on a world scale was very much within the grasp of dedicated scientists who chose to return or remain in New Zealand.”

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