Newborns at Rosie benefit from new brain scanning research centre

02 October 2013

The Evelyn Perinatal Imaging Centre provides facilities for life-changing research into babies’ brain function, using the latest non-invasive, light based technologies. It is the only centre of its kind in the UK.

The centre is based at the Rosie Hospital for maternity, women’s and neonatal care. Its close proximity to the neonatal intensive care unit, postnatal wards and birthing suite, means both healthy and sick newborn infants in their earliest stages of life can benefit from nearby excellence.

Dr Topun Austin, centre lead and consultant neonatologist at the Rosie, said: “Advances in medical technology and expertise have dramatically improved survival rates for babies over the past 30 years. However, pre-term infants and those who suffer from a shortage of blood flow and oxygen during delivery can experience lifelong neurological problems. These facilities help us identify babies at risk of long-term brain injury and better understand how they respond to different treatments”.

The Evelyn Trust awarded a generous grant towards the centre following a successful application made by Addenbrooke’s Charitable Trust (ACT), the hospital’s dedicated charity. The grant funded the construction and fitting out of the centre, which houses a dedicated infant-scanning room, state-of-the-art optical imaging and EEG monitoring systems, physics laboratory and research office. There is also space for a dedicated magnetic resonance imaging (MRI) scanner for mothers and babies.

The grant also funds a three year research fellowship in perinatal neuroscience. The fellowship has been awarded to Dr Chuen Wai Lee who will be working with Dr Topun Austin on a study to investigate brain function and behaviour associated with prematurity and brain injury. The fellowship is one of three awarded by the Evelyn Trust this year, which provides short-term financial support to nurture the next generation of clinical academics.
Bill Pike, charity director from the Evelyn Trust, said: “The Evelyn Trust is delighted to see this facility up-and-running, and babies already benefitting from the unique blend of specialists now on hand to support them in their first hours and days of life.”

In conjunction with scientists from University College London, Dr Austin was awarded a grant from children’s charity Action Medical Research in 2011. The award is funding his project to develop a new way to diagnose seizures in babies, which combines existing EEG technology with a new optical imaging system, work that is now being conducted in the new centre.

Dr Austin added: “A dedicated lift provides direct access between the centre and the neonatal intensive care unit, making the research process more streamlined with little disturbance for the babies and their families. The innovative scanning kit is also used for other studies when not in use for the Action project, thereby maximising the benefits from this facility.

Facts

- The term ‘perinatal’ describes the period surrounding birth, and traditionally includes the time from about 24 weeks of pregnancy up to either 7 or 28 days of life.
- The University of Cambridge and Addenbrooke’s Hospital together represent one of the world’s premier centres for neuroscience research with specific interests in brain injury, imaging and repair. Since 2009, Cambridge University Hospitals NHS Foundation Trust, which runs Addenbrooke’s and the Rosie Hospitals, has attracted over £2m of research funding in neonatal neuroscience and has led the development of a regional service for neonatal neuroprotection in the East of England. With the expansion of the Rosie Maternity Hospital in 2012 and the development of the dedicated Evelyn Trust Perinatal Imaging Unit, there is a unique opportunity to build on this early success and develop a world-class centre for Perinatal Neuroscience at Cambridge.
- As the independent registered charity for Cambridge University Hospitals NHS Foundation Trust, Addenbrooke’s Charitable Trust (ACT) is dedicated to making a difference to improve the experience of patients, their families and the staff who care for them. Charitable donations fund high-tech equipment, specialist staff, extra comforts and vital research to find potential cures and help save lives locally, nationally and worldwide. For more information visit: www.act4addenbrookes.org.uk
- The Evelyn Trust is a grant making charity, supporting medical research and healthcare in Cambridge and the surrounding area. For more information visit: www.evelyntrust.com
- neoLAB is a formal collaborative group set up in 2012 between the Cambridge Centre for Perinatal Neuroscience and Biomedical Optics Research Laboratory at University College London (UCL-BORL), with its clinical home in the Evelyn Perinatal Imaging Centre. The group currently have two collaborative grants: Action Medical Research.
awarded £120,000 to develop an Optical-EEG system to investigate seizures in newborns and the Engineering and Physical Sciences Research Council (EPSRC) has provided £1m for advanced imaging equipment.