

## Single blood spot test will improve newborn drug prescribing

A test pioneered by experts at De Montfort University (DMU) could help to improve care and treatment of sick newborn babies.

The test measures how much of a drug is in a baby's blood and will allow more effective treatment, revolutionising the way drugs are used to treat critically ill newborn babies. For example, infants suffering from heart failure are often treated with the drug captopril, but it can be difficult to assess the correct dosage for such small children. The test, developed by Dr Sangeeta Tanna and Dr Graham Lawson, can test for a drug in a single drop of blood, making it suitable for patients who are just days old.

Dr Tanna and Dr Lawson from DMU's Faculty of Health and Life Sciences adapted an existing technique called tandem mass spectrometry which is able to detect drugs in larger volumes of blood. It detects a molecular 'fingerprint' of the drug in the sample. Dr Tanna said: "Newborn babies don't have large amounts of blood in their

bodies so conventional tests were unsuitable. Clinicians will be able to measure the levels of a range of drugs in sick newborn babies quickly and easily."

Dr Lawson said: "Currently, paediatricians prescribe doses according to the baby's weight based on the dose for an adult weight. However, this might not be correct for every baby and some might end up getting too much or too little. Now we can assess the effect of a given dose."

The researchers have been working with Clinical Pharmacist Dr Hussain Mulla and Dr Hitesh Pandya, Consultant Paediatrician at the University Hospitals of Leicester NHS Trust. Dr Pandya said: "The challenge now is to produce a commercially viable form so that it can be used in everyday practice."

Funding for the £70,000 research project was awarded by the National Institute for Health Research under the New and Emerging Applications for Technology Programme.



The work of Professor Adrian Davis OBE, Director of the NHS Newborn Hearing Screening Programme, has been highlighted in an interactive exhibition in Manchester called *Our Kid*, which celebrates 60 years of the NHS and looks to the future of health care.

The interactive exhibition features information and short films following the changes in health care since the first NHS patient in 1948 and highlights key milestones originating from research in Manchester. The exhibit recognises the NHS Newborn Screening Programme as a key medical breakthrough.

Professor Davis said: "I'm delighted. The screening programme is seen as a world leader, but recognition at home is just as important."



Midwife Lynn Walcott (centre), mother of premiership footballer Theo Walcott, spoke at the launch of the *From Bump to Breastfeeding* DVD, which features her daughter Hollie. On her left is Francesca Entwistle, Best Beginnings trustee and Infant Feeding Coordinator for London, and on her right is Alison Baum, CEO of Best Beginnings. *Photo by Ian Vogler.*

## Breastfeeding journeys are filmed to support breastfeeding

A free DVD entitled *From Bump to Breastfeeding – following real mothers' stories to find out how* provides a source of support to UK women to breastfeed and will be distributed via midwives and health visitors. It gives positive and practical breastfeeding information to women who are unsure about whether to breastfeed.

Best Beginnings, a child health charity

produced the 35-minute film in collaboration with the Department of Health. The government has allocated £5 million for 2008-09 to support breastfeeding. Award-winning filmmaker Jacqueline Smith is responsible for producing the documentary-style DVD featuring nine women and following their breastfeeding journeys.

## Bliss adds text messaging to its support services

Special care baby charity Bliss has rolled out Blisstext, a text messaging helpline option, powered by an autonomous web-based text messaging solution from Text Messaging Centre (TMC). It allows Bliss to communicate with young parents and families looking after babies requiring special care via text as well as the usual telephone helpline. Blisstext issues text messages containing crucial advice and support to multiple recipients at any time from a versatile, controlled and managed web-based application. All messages are fully auditable and compliant through the TMC interface.

Research carried out by Bliss revealed that text messaging is now the communication method of choice for young parents wishing to contact the Bliss Family Support Helpline.

[www.bliss.org.uk](http://www.bliss.org.uk)

## Marking 40 years of EFM

To celebrate 40 years of electronic fetal monitoring, Philips Healthcare has released images of the very first devices for listening to the fetal heart, which led to the advanced technologies in use today.

Fetal heart rate monitoring began in the early 19th century when a Frenchman named Laennec invented the medical trumpet or stethoscope for listening to the heart. In 1876 French obstetrician Adolphe Pinard developed his own version of the fetal stethoscope, early versions of which were made of wood.

The heartbeat was just audible and only heard intermittently so proper monitoring depended on a midwife or nurse being constantly at the bedside and using their judgement. This kind of device was in use until the 1960s, when early electrocardiographic techniques were introduced. These were of limited use however, because they detected the mother's heartbeat as well as the baby's.

In 1964 the Doppler principle was applied and in 1968 the world's first external electronic fetal heart monitor –



Using a Pinard stethoscope to listen to the fetal heart rate.

the Babysitter – was developed by Professor Konrad Hammacher and launched by the Hewlett Packard Medical Products Group.

Nowadays, with increasing multiple births, monitoring of twins and triplets is a required functionality. Today's generation of fetal monitors can provide non-invasive triplet monitoring in one device and cordless devices allow mothers to be mobile or even use a birthing pool, while caregivers need not stay at the bedside during the labour.



Inventor Professor Konrad Hammacher (right) with Mrs Hammacher and Otto Genter of Hewlett Packard, with the prototype fetal monitor called the Babysitter.



Continuous electronic fetal monitoring with a cordless system can be used in birthing pools.

## Helping to wash away baby care worries

Findings from a survey of 1,000 midwives and health visitors show that nearly a third of all midwives and health visitors are worried that new parents have unrealistic and impractical expectations of the services they can provide and this hinders their ability to perform to the highest possible standards.

Health professionals would like parents to be more knowledgeable on key areas of parenting such as the nutritional needs of baby and mother during and post pregnancy.

The research has prompted Comfort Pure and Persil Non Bio to set up a 'one-stop-shop' of information for healthcare professionals at [www.washawayourworries.com](http://www.washawayourworries.com). The website is endorsed by the British Skin Foundation and offers midwives and health visitors instant access to up-to-date, trustworthy information to help with the everyday worries of expectant and new mums.

A panel of healthcare experts covers a range of relevant topics, from colic and breastfeeding to skin sensitivities such as eczema, to advice about laundry.

## UK's first umbilical cord blood bank is open

An umbilical cord blood bank and research institute is offering a lifeline to thousands of patients awaiting crucial transplants.

The Anthony Nolan Trust Cord Blood Bank at Nottingham Trent University stores vital stem cells from the blood of newborn babies' umbilical cords to help save lives and pioneer new research.

Initially, mums delivering at London's King's College Hospital can donate while a £27 million roll-out programme aims to reach 10 maternity units nationwide in the next five years.

Cord blood stem cells have been highly successful in renewing bone marrow and

regenerating the immune systems of those with life-threatening illnesses including leukaemia, sickle-cell diseases and immune deficiencies.

While research is still in the experimental stages, scientists are hopeful that future cord blood transplantation will help with many more diseases.

Donation is simple, ethical and free. After birth, a doctor or midwife collects blood from the placenta and umbilical cord using a needle connected to a sterile bag. This takes minutes and is then transported to the cord blood bank for tissue typing and storage at minus 190°C.

## The future of nursing education has arrived

Scientific, technical and medical information publisher Elsevier has launched nurse for life – an electronic product for UK nursing students. Elsevier currently publishes some of the most popular nursing textbooks and to allow students to maximise use of this world class content, the electronic solution at [www.nurseforlife.com](http://www.nurseforlife.com) has been created.

Nursing students have access to their textbooks electronically via a DVD that loads purchased ebooks onto their computer hard drive. Key information is quickly accessible by electronically searching across textbooks, and a time-saving automatic reference tool imports all bibliographic information whenever a passage is copied.

Images in the books can be used for assignments, while students can use the highlighting and notes tools to collate information and customise their textbooks.

nurse for life is available from selected bookstores and at [www.elsevierdirect.com](http://www.elsevierdirect.com)