3D imaging offers new hope in fight against breast cancer

20 April 2009 - King's College Hospital in south London - part of King’s Health Partners Academic Health Sciences Centre - is the first hospital in the UK to trial the use of new three dimensional digital x-ray technology for breast cancer screening and diagnosis.

If successful, the trial could offer new hope in the fight against breast cancer, which is responsible for the deaths of over 12,000 women in the UK every year.

At present, two-dimensional mammography is the standard type of breast x-ray used in hospitals across the UK. Although recognised as safe and reliable in detecting the early signs of cancer, 2D mammography can be difficult to read because of tissue overlap.

The so-called ‘anatomical noise’ associated with 2D imaging can sometimes hide cancers, or produce shadows which can falsely create the suspicion of cancer. The new technology at King’s enables doctors to look at separate ‘slices’ of the breast. The trial is designed to demonstrate whether this will be even more accurate than standard two-dimensional mammography.

The ‘digital breast tomosynthesis’ technology works in a similar way to a CT (or CAT) scan, taking multiple images of the breast at different angles. The tomosynthesis slices are then viewed one at a time or put together into a cine loop for doctors to analyze. Tomosynthesis is simpler to implement than a CT scan and requires only small modifications to existing mammography systems, whereas CT requires large complex scanners.

Over 150 women have participated in the King’s Health Partners trial to date.

Dr Michael Michell, Director of Breast Screening at King’s, said:

“2D mammography remains a safe and reliable way of detecting the early signs of breast cancer, and has played a key role in the success of the National Breast Screening Programme. However, we are cautiously optimistic that the new 3D technology being trialled at King’s has the potential to improve the detection of small breast cancers and change the future of breast screening.”

Dr Michell added:

“Key to successful treatment of breast cancer is detection in the early stages. The new equipment at King’s may help to spot signs of abnormality in the breast earlier than we are currently able to, as well as to reduce the number of false alarms. Both of these could mean improved outcomes for our patients.”

Mrs Sarah Sellars, Assistant Director of NHS Cancer Screening Programmes, added:

“The NHS Breast Screening Programme welcomes research into the use of new technology for screening and we await the outcome of this study with interest”.

The trial use of digital breast tomosynthesis at King’s has been authorised by the hospital’s Ethics and Research and Development committees. The clinical results of the trial at King’s will be considered by the NHS Breast Screening Programme.

Notes to editors

For more information about the NHS Breast Screening Programme, click on: http://www.cancerscreening.nhs.uk/breastscreen/index.html

Notes to editors

1. For further information contact:
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2. King’s College Hospital NHS Foundation Trust is one of the UK’s largest and busiest teaching hospitals, with over 6,000 staff providing around 700,000 patient contacts a year. King’s has a unique profile, with a
full range of local hospital services for people in the London boroughs of Lambeth and Southwark as well as specialist services to patients from further afield. The Trust is recognized internationally for its work in liver disease and transplantation, neurosciences, cardiac and haemato-oncology. King’s also plays a key role in the training and education of medical, nursing and dental students with its academic partner, King’s College London. For more information, visit www.kch.nhs.uk

3. King’s College Hospital NHS Foundation Trust is part of King’s Health Partners Academic Health Sciences Centre (AHSC), a pioneering collaboration between King’s College London, and Guy’s and St Thomas’, King’s College Hospital and South London and Maudsley NHS Foundation Trusts.

King’s Health Partners is one of only five AHSCs in the UK and brings together an unrivalled range and depth of clinical and research expertise, spanning both physical and mental health. Our combined strengths will drive improvements in care for patients, allowing them to benefit from breakthroughs in medical science and receive leading edge treatment at the earliest possible opportunity.

For more information, visit www.kingshealthpartners.org