Lay summary for completed research projects

| **CCR No and Study Title:** | CCR2432  
Development & Evaluation of endocavity magnetic resonance techniques |
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| **CI and Sponsor names:**  | Professor Nandita de Souza  
Institute of Cancer Research |
| **Study opening date:**    | 16/03/2005  
**Study closing date:**   | 16/09/2013 |
| **Proposal and Objectives:** | This study was set up to:  
• Develop endo-cavity magnetic resonance (MR) spectroscopic imaging as a clinical tool to identify small, early cervical cancers (smaller than 200mm³)  
• Develop combined high-resolution MR imaging and localised spectroscopy (MRS) for differentiating high-grade pre-invasive from invasive disease.  
Additional funding from the Medical Research council was then obtained to:  
• Develop diffusion-weighted magnetic resonance imaging (DW-MRI) at 3.0T for improving detection and characterisation of cervical cancer. |
| **Main Findings:**         | This study has enabled the successful development of internal Magnetic Resonance Imaging (MRI) of the cervix. The improved sensitivity for detecting cancer made possible with this procedure means that very small, early stage, cervical cancers can be identified.  
Defining the extent of cervical cancer is invaluable in being able to identify patients who can be offered less radical surgical treatments, If hysterectomy (removal of the uterus) can be avoided, then fertility can be preserved, giving younger patients the chance to still have a family. |
| **Implications for practice/future research:** | This research has demonstrated clear patient benefit and has led to the technique being offered as a clinical service for cervical cancer patients at The Royal Marsden. We now plan to extend this study to additional research sites and ultimately make the technique more widely available. We have also identified changes that take place in tissues as they progress from normal, to pre-cancerous to cancerous stages using advanced image |
| Dissemination Plan: | This research has been published widely in peer-reviewed publications and presented at National and International meetings. It has featured in information leaflets about the work of our specialist cancer imaging Clinical Research Facility and on posters at public engagement events. |