**Lay summary for completed research projects**

| CCR No and Study Title: | CCR3428  
Biomarkers in Small Cell Lung Cancer |
|------------------------|---------------------------------------------------|
| CI and Sponsor names:  | Dr Mary O’Brien  
The Royal Marsden NHS Foundation Trust |
| Study opening date:    | 05/07/2011  
Study closing date: | 31/07/2014 |
| Proposal and Objectives: | Small cell lung cancer is an aggressive type of lung cancer. Biopsies (samples) are taken from a tumour to help make the diagnosis of cancer. It is important to look for changes in the DNA of cancer cells (genetic mutations) as many new drugs work by targeting these genetic changes.  
105 patients who had been diagnosed with small cell lung cancer at the Royal Marsden Hospital entered into this study. Their biopsy samples were tested in the laboratory for six genetic mutations. These genetic mutations were: EGFR, NRAS, KRAS, BRAF, ALK rearrangement and MET amplification. Information about patients such as patient’s age and treatments the patient had received were also collected. |
| Main Findings: | 57% of patients had tumour biopsies available that could be tested in the laboratory for this study. Only 25 patients had all of the six genetic mutations tested fully. 11 patient samples could not be tested for any of the six mutations. This was because the amount of DNA that could be extracted from the samples was too small to run the tests. A BRAF mutation was found in one patient. |
| Implications for practice/future research: | Most patients in this study were unable to have their tumour tested for important genetic changes. Only one mutation was found in this group of patients.  
This study shows that it is important to investigate other means of assessing genetic changes in small cell lung cancer such as methods using cancer cells found in the blood (known as circulating tumour cells). |