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***A Systematic Review of the Accuracy of Radiographer Reporting in Gastrointestinal Examinations***

£500 awarded

**Lay summary of the project**

Gastrointestinal (GI) examinations represent a significant proportion of radiological imaging in the NHS. This burden is expected to increase with an ageing British population. For example, oesophageal cancer rates have increased 50% in males over the past 25 years. Similarly, colorectal cancer is presently the third most common type of cancer in the UK (Cancer Research UK, 2011).

The resultant increased demand for gastrointestinal imaging is inevitable. One response from radiological service providers has been the role expansion of radiographers. Historically, this began with radiographers taking over from radiologists in performing examinations but has now extended into radiographers reporting these GI examinations as well. The careful selection and training of radiographers reporting on these examinations can save the NHS money, improve efficiency, improve radiographer retention and free up consultant radiologists to perform more complicated tasks.

Previous studies exist on assessing the accuracy of radiographer reporting in GI examinations. These examinations include fluoroscopic swallow and small bowel contrast procedures, double contrast barium enemas and more recently computed tomography colonography (CTC) procedures.

This study will be based on a systematic review of the literature employing a search strategy involving a range of health-related electronic databases, hand searching through key journals and secondary references, and personal communication with leaders in this field. Grey literature will also be reviewed, with particular attention to internal departmental audits performed by experienced GI radiographers that have been published but not necessarily peer reviewed.

A systematic review of the evidence base should allow assessment of the suitability of radiographers reporting GI examinations in the NHS today.

**Description of the project:**

## 'A Systematic Review of the Accuracy of Radiographer Reporting in Gastrointestinal Examinations'

### a) Principal Aim of the Study:

The principal aim of this study is to investigate the ability of radiographers to provide radiological reports in the clinical environment, with regards to fluoroscopic gastrointestinal procedures and computed tomography colonography, and to recommend whether it is feasible for them to do so in clinical practice today.

### b) Principal Research Question:

- How accurately do radiographers report on fluoroscopic gastrointestinal examinations and computed tomography colonographic examinations compared to a reference standard?

### c) Secondary Research Questions:

- Are there gaps in evidence based research regarding this topic that need to be addressed?
- What work practices currently exist with respect to gastrointestinal radiographer reporting?

### d) Outcomes:

The primary outcome of this study will be to estimate the accuracy of radiographers' performance when reporting on gastrointestinal examinations. This is most commonly quantified by the sensitivity and specificity of radiographers' reporting results compared with a consultant radiologists report as the reference standard.

### e) Review of the Literature and Current Gap in Knowledge:

Radiographer reporting of plain films has taken place in the NHS since the 1990's. A contributing factor to this practice becoming permanently established in the NHS is the development of an extensive evidence base which has been synthesised in the form of systematic reviews (Brealey, 2006, Brealey, 2005). These comprehensive systematic reviews provided a thorough collection of available literature on the issue and were later cited in definitive policy guidelines from the Royal College of Radiologists (Medical image interpretation by radiographers: Guidance for radiologists and health care providers) and the College of Radiographers (Medical Image Interpretation by Radiographers: Definitive Guidance) in 2010. Publications such as this provide the vital foundation for established safe practice in developing fields in health care.

A review of current online databases (MEDLINE, CINAHL, Cochrane) and relevant journals (Radiography, Clinical Radiology, Colorectal Disease) demonstrates that no previous systematic reviews have been done regarding radiographers' reporting accuracy of gastrointestinal examinations. This is despite 83% of NHS trusts having radiographers undertaking barium enema reporting (Price, 2007).

There are some literature reviews about the benefits of radiographers performing and reporting gastrointestinal examinations, but these are concerned with dose efficiency, time efficiency and complication rates in performing procedures and are not comprehensive reviews of reporting accuracy (Nightingale, 2007).

Preliminary searches of online databases (MEDLINE, CINAHL, Cochrane) identified a number of studies on a range of related material regarding radiographers reporting fluoroscopic gastrointestinal procedures. These included diagnostic accuracy of reporting in barium swallows and small bowel procedures (Judson, 2009) and double contrast barium enemas (Law, 1999; Law, 2008; Murphy, 2002). This preliminary search indicates that there is scope for the principal research question to be adequately addressed via the systematic methodology below.

There is a need for an improved evidence base in this area of radiological imaging. Colorectal cancer is the third most prevalent in the UK today and as such represents a significant service requirement for NHS radiology departments (Cancer Research UK, 2011). The use of Computed Tomography Colonography continues to increase in the NHS with an estimated 36% of NHS radiology departments offering the service. This will continue to increase as CT scanner technology improves (Burling, 2004). CTC's acceptance is due to it's ease of use and better

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