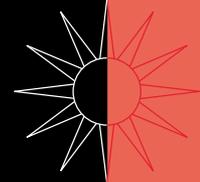


THE COLLEGE OF  
RADIOGRAPHERS

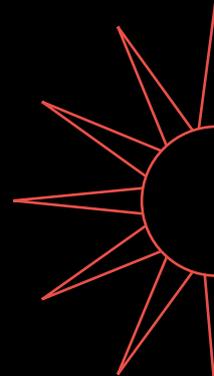
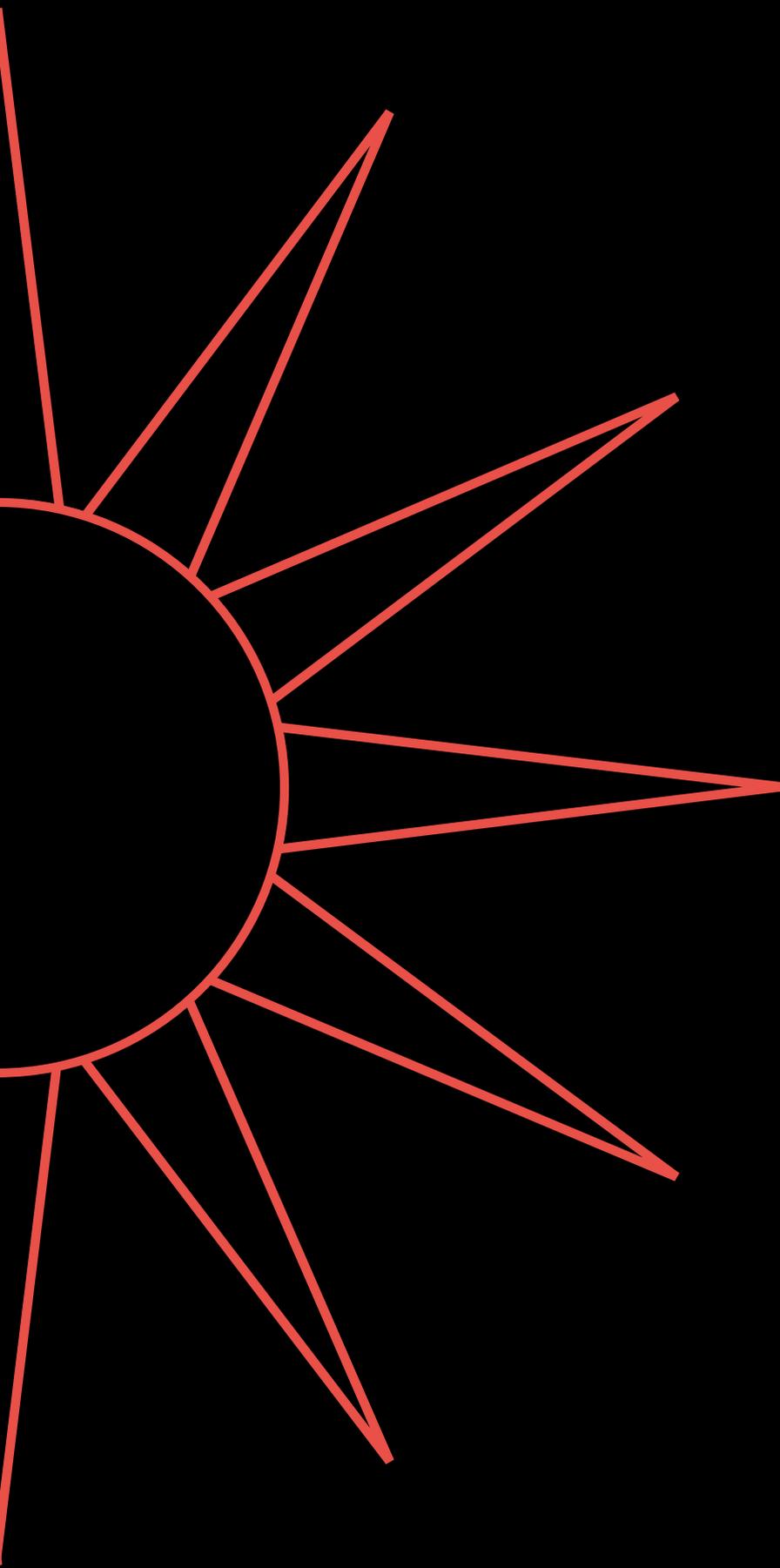


**MEDICAL IMAGE  
INTERPRETATION BY  
RADIOGRAPHERS**

**DEFINITIVE GUIDANCE**

THE SOCIETY OF  
RADIOGRAPHERS





# Medical Image Interpretation by Radiographers Definitive Guidance

---

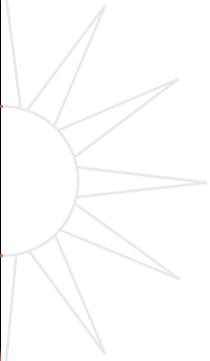
**College of Radiographers' Responsible Officer:**  
Audrey Paterson, Director of Professional Policy

May 2010

**ISBN 9781 871101 68 9**

**The Society of Radiographers**  
207 Providence Square  
Mill Street  
London SE1 2EW

Telephone 020 7740 7200  
Facsimile 020 7740 7233  
E-mail [info@sor.org](mailto:info@sor.org)  
Website [www.sor.org](http://www.sor.org)



## Contents

---

Foreword	5
Introduction	6
The Society and College of Radiographers' Perspective	6
Radiographers' Education and Training in Medical Image Interpretation	7
Radiographers' Scope of Practice in Medical Image Interpretation	7
Service Benefits from Radiographer Reporting	8
Safety of Radiographer Reporting	8
Conclusion	8
References	9

## Foreword

---

The publication by The Royal College of Radiologists (RCR) on the practice of radiographers in relation to medical image interpretation is disappointing on three counts.

First, it has no business pronouncing on the roles and practice of radiographers; second, it is inaccurate, and, third, it is based on opinion rather than evidence. Indeed, it offers no evidence to support its view that employing reporting radiographers carries 'substantially greater risks for healthcare organisations than employing radiologists'.

I had hoped that the discussions in the two working group meetings convened by the RCR, and further discussion at the Clinical Radiology Faculty Board, would have discouraged the RCR from publishing its advice. Of course, it is entitled to publish its views but it is regrettable that these run contrary to the detailed and difficult work our respective organisations undertook jointly on team working<sup>1</sup>, which is so important to deliver the high quality, productive, efficient and timely clinical imaging services needed in the UK.

Radiographers are individually accountable healthcare practitioners regulated by the Health Professions Council. Medical image interpretation is legally and legitimately within the regulated practice of radiographers, and has been for many years.

The Society and College of Radiographers (SCoR) is the professional body responsible for the scope of practice of radiographers. Accordingly, we are publishing this definitive guidance to provide assurance that radiographer reporting is safe, subject to reporting radiographers and their employers/contractors, adhering to our guidance. Further, it is important that healthcare organisations continue to develop and deploy reporting radiographers to continue to meet the current and future challenges of delivering comprehensive clinical imaging services in the UK.

The SCoR will continue to work with The RCR to ensure that, together, our respective professions can deliver the high quality clinical imaging services so necessary to healthcare in the UK.

Advanced and consultant practice radiographers, including those with medical image interpretation roles, are essential to such services.



**Gill Dolbear**  
**President**  
**The Society and College of Radiographers**

---

<sup>1</sup> *Team working within clinical imaging: a contemporary view of skills mix*. The Royal College of Radiologists and The Society and College of Radiographers, January 2007.

# Medical Image Interpretation by Radiographers: Definitive Guidance

---

## The Society and College of Radiographers

### Introduction

Advice on radiographers' practice entitled *Medical image interpretation by radiographers: Guidance for radiologists and healthcare providers* has been issued recently by the Royal College of Radiologists (RCR)<sup>1</sup>. This outlines the RCR's view on the conditions under which radiographers can undertake medical image reporting. The RCR's guidance infers there are substantial risks for healthcare organisations in using professionals without medical qualifications to undertake medical image reporting, claiming that radiological diagnosis is included within the practice of medicine. It confines its guidance to radiographers only, taking no account of the fact that other non-medically qualified groups also undertake medical image interpretation, including for example, nurse practitioners, midwives and physiotherapists<sup>2,3,4</sup>.

### The Society and College of Radiographers perspective

The RCR is not the body that speaks for the radiography profession and it has no role in determining what is or is not appropriate practice for radiographers.

The Society and College of Radiographers (SCoR) regrets that the RCR has issued its advice document on the practice of radiographers for several reasons:

- Medical image interpretation by radiographers is well established<sup>5</sup>, with forty years of such practice in medical ultrasound imaging and twenty years in other fields of medical imaging.
- The legal impediment to radiographers carrying out medical image interpretation was removed in the mid 1980s by the (then) statutory body for the radiography profession, the Radiographers Board at the Council for Professions Supplementary to Medicine<sup>6</sup>. The RCR held a seat on that Board and so was party to that decision.
- In the past two decades, the contribution of radiographers to medical image interpretation has improved the volume of reporting undertaken and the speed at which reports are provided (report turn-around times), to the benefit of referrers and patients alike<sup>7</sup>.
- Research studies show consistently that reports made by properly trained reporting radiographers are concordant with reports of consultant radiologists, and are more accurate than those of non-radiological medical staff and other non-medical professionals<sup>8-10</sup>.
- The description of radiographers' education and training in medical image interpretation is both inaccurate and out of date.
- The provision of definitive guidance on the practice of radiographers is the duty of the SCoR. In 2006, we issued our guidance<sup>11</sup> on reporting by radiographers in the document *Medical Image Interpretation & Clinical Reporting by Non-Radiologists: The Role of the Radiographer*.

The SCoR believes that the guidance issued by the RCR damages confidence in the quality of clinical imaging services as they have been provided over many years, and may undermine future service development. Our view is that advanced practice radiographers are crucial to overcoming the challenges facing clinical imaging services in the future and, as the professional body responsible for the scope of practice of radiographers, we are publishing this document to provide assurance to healthcare providers that radiographer reporting is safe, subject to reporting radiographers and their employers/contractors, adhering to the guidance and standards of the SCoR<sup>11-13</sup>. Healthcare organisations need to deliver effective, timely clinical imaging and interventional services, and radiographers, including advanced and consultant practice reporting radiographers, are essential to doing so.

## **Radiographers' education and training in medical image interpretation**

Radiographers are regulated by the Health Professions Council (HPC) and must be registered with the HPC to practice in the UK. All pre-registration education and training programmes are approved by the HPC and must ensure that qualifying radiographers meet its standards of proficiency<sup>14</sup>, and its standards of conduct, performance and ethics<sup>15</sup>. These standards provide the preparatory education and training necessary to support postgraduate development as advanced practice reporting radiographers and sonographers.

To become an advanced practice reporting radiographer or sonographer, radiographers must complete postgraduate education and training programmes approved by the College of Radiographers (CoR)<sup>16,17</sup>. These programmes build on radiographers' initial education and training, concentrating on developing clinical skills and knowledge of disease and trauma processes and manifestations; medical image interpretation theory and process, including errors; clinical history, signs and symptoms; previous and/or concurrent diagnostic information from imaging and/or laboratory tests, and multi-disciplinary consulting and communication<sup>18,19</sup>. All such programmes have considerable practise reporting components that must be supervised by a consultant radiologist or a very experienced, qualified reporting radiographer, and programmes culminate in formal clinical examinations which must be passed. CoR approved programmes have been available since 1994, with consultant radiologists participating as faculty members, clinical mentors and external examiners.

## **Radiographers' scope of practice in medical image interpretation**

There are three critical elements to every diagnostic imaging examination:

- It must be the appropriate investigation, justified in the context of each person's presenting signs and symptoms, and clinical history.
- The examination needs to be timely and accurate to maximise the diagnostic potential of the investigation.
- A report on the findings of the examination must be the end point; this must be timely and communicated effectively to ensure it influences the individual's subsequent clinical management. In 1995, the Audit Commission recommended that the majority of patients should leave the clinical imaging department with their reports<sup>20</sup>.

Radiographers' scope of practice spans all three of these critical elements, and they have been reporting on medical images for many years, beginning with ultrasound in the late 1960s/early 1970s. In the past 20 years, radiographer reporting has extended into other modalities, including plain and contrast agent radiographic examinations, breast imaging, computed tomography (CT), magnetic resonance imaging (MRI) and nuclear medicine. Radiographers undertaking medical image interpretation do so within a defined scope of practice for which they have been educated, trained, assessed and deemed competent. A study in 2008, showed that reporting by radiographers in defined fields across the spectrum of clinical imaging was established prior to 2003 (the date of a previous survey), and had grown further since that date<sup>5</sup>; and a report by the (then) Health Care Commission in 2007 showed that radiographers were undertaking 16% of all reporting, with a further 10% of imaging procedures still unreported<sup>7</sup>. Evidently, therefore, radiographers make a significant contribution to the reporting workload and, as a regulated allied health profession, they are directly accountable for their practice, including their reporting practice.

### **Service benefits from radiographer reporting**

Reporting by advanced and consultant practice radiographers has led to service improvements for patients and referring clinicians. Generally, the volume of unreported imaging examinations has reduced, as has the time taken for a report to be returned to a referring clinician<sup>7,21</sup>. This has meant better compliance by healthcare providers with the requirements of the Ionising Radiation (Medical Exposure) Regulations 2000; and provided referring clinicians with a report in time to inform the clinical management and treatment of their patients.

Further service benefits are evident at national level. These include development of the NHS Breast Screening Programme to include double reporting of screening mammograms<sup>22</sup>; this has only been possible because of advanced and consultant practice radiographers. The national stroke strategy is another example. This requires imaging and its subsequent interpretation to be undertaken very quickly after the onset of symptoms<sup>23</sup>. The availability of properly trained radiographers to perform and report on the scans is growing and is vital to the delivery of this national strategy. In relation to obstetric services, almost 70% of the required ultrasound investigations are undertaken and reported on by radiographers<sup>24</sup>, and they make significant contributions to abdominal and gynaecological ultrasound scanning and reporting<sup>25,26</sup>.

### **Safety of radiographer reporting**

The SCoR has always been clear in its demands that, in each of the fields in which they report, reporting radiographers must operate at the same standard as their clinical radiologist colleagues, and must demonstrate this at the point at which they complete their training and begin to practice<sup>11</sup>. They must also undertake regular audit and review and relevant CPD, and work within explicit clinical governance arrangements to ensure their practice remains at the required standard.

The HPC requires radiographers to be and remain fully competent in their own scopes of practice, auditing the profession accordingly on a two-yearly cycle<sup>27</sup>.

Radiographers that undertake reporting do so as a part of their specialist roles as advanced or consultant level practitioners. They are experienced individuals, practising at career framework levels 7 – 9<sup>28</sup>, and hold appropriate CoR approved postgraduate awards that underpin their practice, including reporting<sup>16,17</sup>.

Research evidence underpins the safety of radiographer reporting and shows consistently that radiographers provide reports that are accurate, and concordant with reports of the same studies produced by consultant radiologists<sup>8-10,25</sup>.

### **Conclusion**

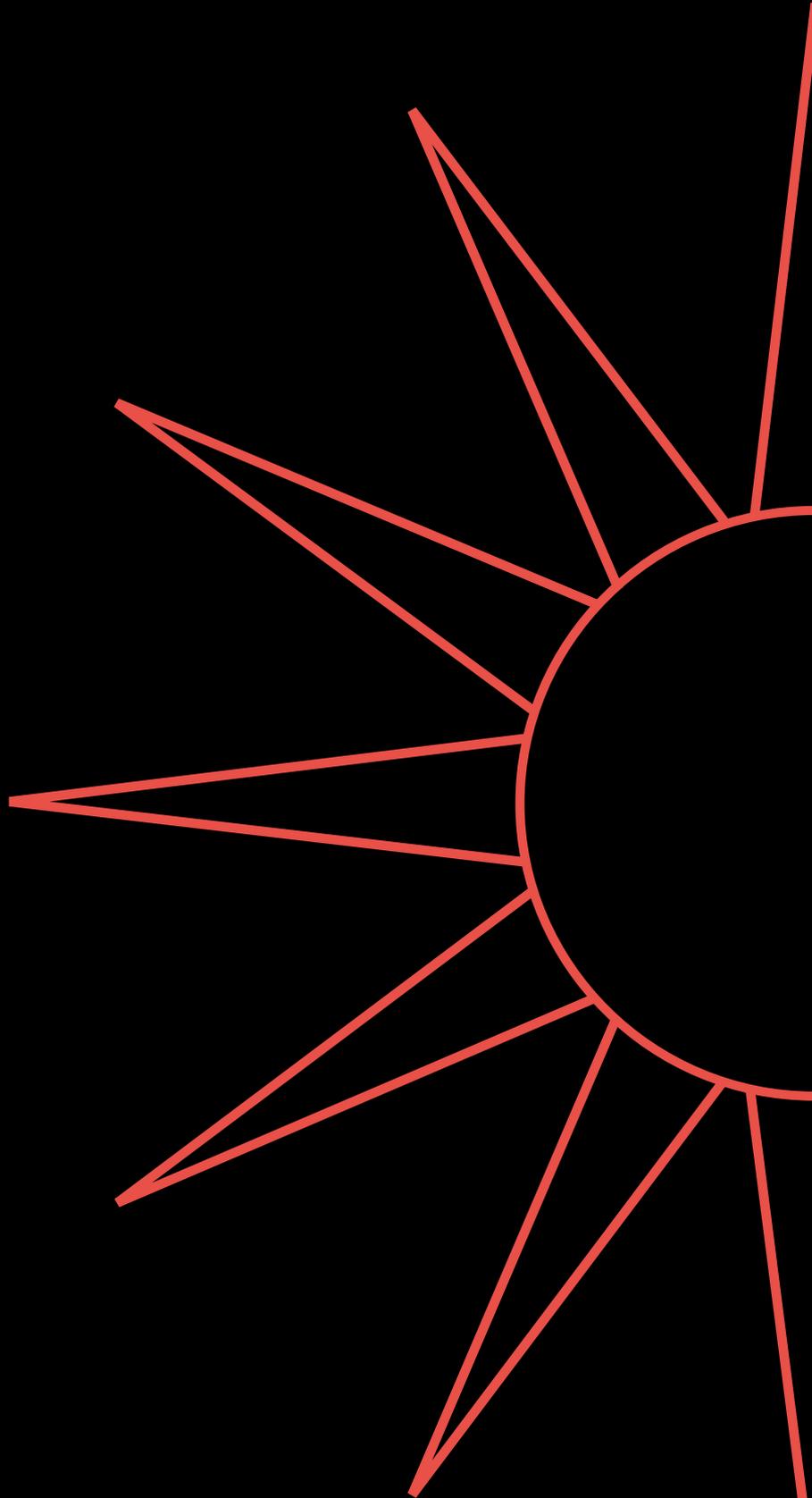
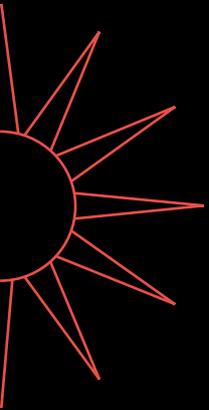
The growth in radiographer reporting practice over the past four decades has been, and remains, necessary to deliver effective, timely clinical imaging services in the UK. Strong, underpinning education and proper governance processes provide assurance that the practice is safe. There is never room for complacency in relation to the safety of patients and it is vital that the two core professions responsible for delivering clinical imaging services work together to constantly improve those services. However, the SCoR has a duty to ensure that information provided to the public, healthcare providers and colleague professions on the practice of radiographers, including their reporting practice, is accurate and does not mislead.

## References

1. The Royal College of Radiologists. *Medical image interpretation by radiographers: Guidance for radiologists and healthcare providers*. London: The Royal College of Radiologists, April 2010.
2. Sakr M, Angus J, Perrin J, Nixon C, Nichol J, Wardrope J. Care of minor injuries by emergency nurse practitioners or junior doctors: a randomised controlled trial *The Lancet* 1999, Volume 354, Issue 9187, Pages 1321-1326.
3. Min Chen, Tak Yeung Leung, Daljit Singh Sahota, et al. Ultrasound screening for fetal structural abnormalities performed by trained midwives in the second trimester in a low risk population – an appraisal. *Acta Obstetrica et Gynecologica Scandinavica* 2009, Volume 88, Issue 6, Pages 713-719.
4. Jedrzejczak A, Chipchase L S. The availability and usage frequency of real time ultrasound by physiotherapists in South Australia: an observational study. *Physiotherapy Research International* 2008, Volume 13, Issue 4, Pages 231 – 240.
5. University of Hertfordshire and The Institute for Employment Studies. *Scope of Radiographic Practice 2008: A report compiled by the University of Hertfordshire in collaboration with the Institute for Employment Studies for the Society and College of Radiographers*. University of Hertfordshire, 2009.
6. Price R. Ultrasound: from pioneering to the present. *Radiography* 2010, Volume 16, Issue 2, Pages 91-92.
7. Commission for Healthcare Audit and Inspection. *An improving picture? Imaging services in acute and specialist trusts*. Commission for Healthcare Audit and Inspection, March 2007.
8. Robinson P J A, Culpan D G, Wiggins M. Interpretation of selected accident and emergency radiographic examinations by radiographers: a review of 11,000 cases. *The British Journal of Radiology* 1999, Volume 72, Pages 546-551.
9. Brealey S, Scally A, Hahn S, et al. Accuracy of radiographer plain radiograph reporting in clinical practice: a meta-analysis. *Clinical Radiology* 2005, Volume 60, Issue , Pages 232-241.
10. Culpan D G, Mitchell A J, Hughes S, Nutman M, Chapman A H. Double contrast barium enema sensitivity: a comparison of studies by radiographers and radiologists. *Clinical Radiology* 2002, Volume 57, Issue , Pages 604-607.
11. The College of Radiographers. *Medical Image Interpretation & Clinical Reporting by Non-Radiologists: The Role of the Radiographer*. The College of Radiographers, September 2006.
12. The College of Radiographers. *Education and professional development: moving ahead*. The College of Radiographers, January 2006.
13. The College of Radiographers. *Education and professional development strategy: new directions*. The College of Radiographers, March 2010.
14. Health Professions Council. *Standards of proficiency – radiographers*. Health Professions Council, October 2009.
15. Health Professions Council. *Standards of conduct, performance and ethics*. Health Professions Council, July 2009.
16. The College of Radiographers. *The Approval & Accreditation of Education Programmes & Professional Practice in Radiography: Policy & Principles*. The College of Radiographers, April 2004.

17. The College of Radiographers. *The Approval & Accreditation of Education Programmes & Professional Practice in Radiography: Guidance on Implementation of Policy and Principles*. The College of Radiographers, September 2004.
18. The College of Radiographers. *A curriculum framework for radiography*. The College of Radiographers, April 2003.
19. The College of Radiographers. *Learning and development framework for clinical imaging and oncology*. The College of Radiographers, February 2008.
20. The Audit Commission. *Improving your image – how to manage radiology services more effectively*. London: HMSO, 1995.
21. Piper K. Implementation of a radiographic reporting service in 4 NHS Trusts: final report for South Thames NHSE, April 1999. [www.canterbury.ac.uk/health/allied-health-professions/documents/NHSReport.pdf](http://www.canterbury.ac.uk/health/allied-health-professions/documents/NHSReport.pdf) (accessed 07.05.2010)
22. Advisory Committee on Breast Cancer Screening. *Screening for breast cancer in England: past and future*. NHS Cancer Screening Programmes, 2006.
23. Department of Health. *National stroke strategy*. Department of Health, December 2007.
24. NHS Fetal Anomaly Screening Programme. *Ultrasound Survey of England 2008 - Mapping of first and second trimester fetal screening services in the UK*. NHS Fetal Anomaly Screening Programme, April 2010.
25. Leslie A, Lockyer H, Virjee JP. Who should perform routine abdominal ultrasound? A prospective blind study comparing the accuracy of radiologist and radiographer. *Clinical Radiology* 2000, Volume 55, pages 606-608.
26. Nicol M. Reporting on gynaecological ultrasound. *Synergy: Imaging and Therapy Practice*, June 2009.
27. Health Professions Council. *Continuing professional development and your registration*. Health Professions Council, February 2010.
28. Department of Health. *Modernising allied health professions careers: a competence based career framework*. Department of Health, July 2008.







**The College of Radiographers**

Limited company registration number 1287383

Registered charity number 272505

**ISBN 9781 871101 68 9**

**The Society of Radiographers**

207 Providence Square  
Mill Street  
London SE1 2EW

Telephone 020 7740 7200

Facsimile 020 7740 7233

E-mail [info@sor.org](mailto:info@sor.org)

**Website [www.sor.org](http://www.sor.org)**