

The First Year

For most trainees the first year of training represents their first opportunity to learn and acquire radiology skills.

3.1 Overview

At the end of the first year the trainee should:

- feel confident in his/her choice of clinical radiology as a career;
- have mastered the basic sciences of clinical radiology (physics, radiological anatomy and radiological techniques) to the level of the First FFR examination (see Section 3.2);
- be familiar with the concepts and terminology of diagnostic and interventional radiology;
- understand the role and usefulness of the various diagnostic and interventional techniques in all age groups;
- understand the responsibilities of a radiologist to the patient and the need for informed consent;
- be familiar with the various contrast media, drugs (including intravenous sedation) and monitoring used in day to day radiological practice, and be aware of indications, contraindications, doses (adult and paediatric) and the management of reactions and complications;
- be competent in cardiopulmonary resuscitation;
- understand the principles of radiation protection and be familiar with the legal framework for protection against ionising radiation. The trainee should also demonstrate that he/she is capable of safe radiological practice;
- be familiar with safety requirements for radionuclide imaging and imaging with non-ionising radiation (e.g. ultrasound and magnetic resonance);
- have learnt and performed core radiological and radiographic procedures (see Section 3.3);
- have developed, under supervision, core reporting skills (see Section 3.4);
- understand and practise clinical audit.

3.2 Basic Sciences

An introductory course on basic sciences relevant to clinical radiology is held during the first year. The core of knowledge required to pass the First FFR examination has been defined by the FFR (First Examination for the Fellowship, Clinical Radiology)².

3.2.1 Physics

The Faculty of Radiologists recommends 40 hours of formal tuition in physics prior to attempting the First FFR examination. This teaching should be given primarily by medical physicists supplemented by clinical radiologists. Candidates for the First FFR examination will be expected to supplement this tuition by a substantial amount of self-directed learning.

In addition, the candidate is expected to be familiar with basic practical aspects of radiological physics and radiation safety, typically acquired through practical demonstrations held in conjunction with a Department of Medical Physics.

3.2.2 Radiological anatomy

The Faculty of Radiologists requires that trainees receive formal tuition in radiological anatomy prior to attempting the First FFR examination. This teaching should be given by consultant clinical radiologists. Candidates will be expected to supplement this tuition by a substantial amount of self-directed learning.

Knowledge of anatomy is enhanced by supervised reporting of radiographs in conjunction with consultant trainers. It is expected that each trainee will devote at least three hours (one session equivalent) to this aspect each week.

3.2.3 Radiological techniques

The Faculty of Radiologists requires that trainees receive formal tuition in radiological and radiographic techniques prior to attempting the First FFR examination. This teaching should be given by clinical radiologists and radiographers. Candidates will be expected to supplement this tuition by a substantial amount of self-directed learning.

In addition the candidate is expected to be familiar with the practical aspects of core radiological and radiographic procedures, typically acquired through a formal training programme supervised by recognised instructors.

3.3 Clinical Skills - Radiological and Radiographic Techniques and Procedures

In the first year of training the trainee must begin to acquire some of the practical skills that will eventually be required of a consultant clinical radiologist.

The techniques and procedures listed as core topics in Sections 3.3.1-3.3.11 will have been performed by the trainee under the supervision of a recognised instructor. Where options are given, the trainee should observe as many of these options as possible.

In the case of plain film radiography, trainees should become familiar with the radiographic technique even if they do not take the radiographs personally.

3.3.1 Vascular

Core

- lower limb venography and/or ultrasound

Optional

- percutaneous arterial and venous diagnostic and interventional procedures
- non-invasive vascular imaging including Doppler ultrasound and magnetic resonance imaging
- radionuclide imaging

3.3.2 Cardiac

Core

- plain radiography

Optional

- echocardiography
- radionuclide imaging
- computed tomography
- magnetic resonance imaging
- angiography
- interventional procedures

3.3.3 Chest

Core

- plain radiography
- radionuclide imaging

Optional

- ultrasound
- conventional and high resolution computed tomography
- magnetic resonance imaging
- angiography
- interventional procedures

3.3.4 ENT

Core

- plain radiography
- sialography

Optional

- computed tomography
- magnetic resonance imaging
- angiography

3.3.5 Breast

Core

- mammography

Optional

- ultrasound
- interventional procedure (e.g. biopsy, cyst drainage)

3.3.6 Musculoskeletal

Core

- plain radiography
- radionuclide radiology

Optional

- ultrasound
- arthrography
- computed tomography
- magnetic resonance imaging
- angiography

3.3.7 Gastrointestinal

Core

- plain radiography
- contrast swallow
- contrast meal
- contrast small bowel examination
- contrast enema
- transabdominal ultrasound
- sinogram
- postoperative T-tube cholangiogram

Optional

- computed tomography
- magnetic resonance imaging
- angiography
- endoscopic retrograde cholangiopancreatography (ERCP)
- percutaneous transhepatic cholangiogram (PTC)/biliary drainage
- interventional procedures
- intraoperative cholangiogram
- radionuclide radiology

3.3.8 Uroradiology

Core

- plain radiography
- intravenous urogram
- transabdominal ultrasound
- nephrostogram
- cystogram
- urethrogram
- radionuclide radiology

Optional

- endoluminal ultrasound
- computed tomography
- magnetic resonance imaging

- antegrade/retrograde pyelogram
- nephrostomy
- angiography

3.3.9 Reproductive system

Core

- transabdominal ultrasound

Optional

- hysterosalpingogram
- scrotal ultrasound
- computed tomography
- magnetic resonance imaging
- endovaginal ultrasound
- obstetric ultrasound

3.3.10 Neuroradiology

Core

- plain radiography
- computed tomography (brain)

Optional

- magnetic resonance imaging (brain and spine)
- computed tomography of spine
- radionuclide imaging
- ultrasound including Doppler
- CT myelography
- angiography (conventional, CT angiography and magnetic resonance angiography)
- myelography

3.3.11 Paediatrics

Core

- plain radiography
- transabdominal ultrasound
- routine contrast examination of the gastrointestinal system
- routine contrast examination of the urinary tract

Optional

- ultrasound of the neonatal head
- radionuclide imaging
- computed tomography and magnetic resonance imaging with special reference to technique, sedation and anaesthesia

3.4 Clinical Skills-Interpretative/Communication and Report Writing

In the first year of training the trainee must begin to acquire some of the interpretative, reporting and communication skills that will eventually be required of a consultant radiologist.

The Faculty of Radiologists recommends a minimum requirement of two sessions per week to be devoted to reporting. For the core, the trainee will have interpreted and formally reported the following under the supervision of a recognised trainer.

Core

- all core procedures and techniques performed by the trainee
- a selection of radiographs taken for trauma
- a selection of urgent in-patient and out-patient radiographs
- some selective reporting of a range of patient referrals for non-urgent radiographs

Optional

- the reporting of ultrasound, radionuclide imaging, computed tomography and magnetic resonance investigations
- the reporting of special procedures not performed by the trainee
- the reporting of paediatric investigations

3.5 Assessment

The first year in clinical radiology is often a difficult year of transition for trainees. Local education co-ordinators are encouraged to offer advice, a mentor system and a counselling service during the year.

3.5.1 Candidates failing the First FFR examination should be counselled by the local education co-ordinator on each occasion.

3.5.2 All trainees should be assessed yearly as defined in Section 2.8. The possible outcomes of this assessment are listed below.

- Progress into the second year of training.
- Conditional Progress into the second year of training. A specific action plan will be formulated with the trainee to redress deficiencies in performance of the trainee. Progress will be re-assessed as appropriate within the second year of training.
- Failure, if the trainee is so far short of the objectives of the first year training programme such as to prevent the trainee continuing through the training programme. The Faculty recommends that repetition of the first year should only be recommended for well founded reasons.