SCHEDULE 2

Regulation 2(1)

Adequate Training

Practitioners and operators shall have successfully completed training, including theoretical knowledge and practical experience, in—

- (i) such of the subjects detailed in section A as are relevant to their functions as practitioner or operator; and
- (ii) such of the subjects detailed in section B as are relevant to their specific area of practice.

A. Radiation production, radiation protection and statutory obligations relating to ionising radiations

1. Fundamental Physics of Radiation

1.1 Properties of radiation

Attenuation of ionising radiation

Scattering and absorption

1.2 Radiation hazards and dosimetry

Biological effects of radiation

Risks/benefits of radiation

Dose optimisation

Absorbed dose, dose equivalent, effective dose and their units

1.3 Special attention areas

Pregnancy and potential pregnancy

Infants and children

Medical and biomedical research

Health screening

High dose techniques

2. Management and Radiation Protection of the Patient

2.1 Patient selection

Justification of the individual exposure

Patient identification and consent

Use of existing appropriate radiological information

Alternative techniques

Clinical evaluation of outcome

Medico-legal issues

2.2 Radiation protection

General radiation protection

Use of radiation protection devices

- patient
- personal

Procedures for untoward incidents involving overexposure to ionising radiation

3. Statutory Requirements and Advisory Aspects

3.1 Statutory requirements and non-statutory recommendations

Regulations

Local rules and procedures

Individual responsibilities relating to medical exposures

Responsibility for radiation safety

Routine inspection and testing of equipment

Notification of faults and DH hazard warnings

Clinical Audit

B. Diagnostic Radiology, Radiotherapy and Nuclear Medicine

4. Diagnostic Radiology

4.1. General

Fundamentals of radiological anatomy

Fundamentals of radiological techniques

Production of X-rays

Equipment selection and use

Factors affecting radiation dose

Dosimetry

Quality assurance and quality control

4.2. Specialised techniques

Image intensification/fluoroscopy

Digital fluoroscopy

Computerised Tomography scanning

Interventional procedures

Vascular imaging

4.3. Fundamentals of Image Acquisition etc

Image quality v. radiation dose

Conventional film processing

Additional image formats, acquisition, storage and display

4.4. Contrast Media

Non-ionic and ionic

Use and preparation

Contra-indications to the use of contrast media

Use of automatic injection devices

5. Radiotherapy

5.1. General

Production of ionising radiation

Use of radiotherapy —

benign disease

malignant disease

external beam

brachytherapy

5.2. Radiobiological Aspects for Radiotherapy

Fractionation

Dose rate

Radiosensitisation

Target volumes

5.3. Practical aspects for radiotherapy

Equipment

Treatment planning

5.4. Radiation Protection Specific to Radiotherapy

Side effects — early and late

Toxicity

Assessment of efficacy

6. Nuclear Medicine

6.1. General

Atomic structure and radioactivity

Radioactive decay

The tracer principle

Fundamentals of diagnostic use

Fundamentals of therapeutic use

dose rate

fractionation

radiobiology aspects

6.2. Principles of Radiation Detection, Instrumentation and Equipment

Types of systems

Image acquisition, storage and display

Quality assurance and quality control

6.3. Radiopharmaceuticals

Calibration

Working practices in the radiopharmacy

Preparation of individual doses

Documentation

6.4. Radiation Protection Specific to Nuclear Medicine

Conception, pregnancy and breastfeeding

Arrangements for radioactive patients

Disposal procedures for radioactive waste