SCHEDULE 3 Regulation 17

Adequate Training

1. Practitioners and operators must have successfully completed training, including theoretical knowledge and practical experience, in—

(a) such of the subjects detailed in Table 1 as are relevant to their functions as practitioner or operator; and

(b) such of the subjects detailed in Table 2 as are relevant to their specific area of practice.

Table 1

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

Fundamental Physics of Radiation	
Properties of Radiation	Excitation and ionisation
	Attenuation of ionising radiation
	Scattering and absorption
Radiation Hazards and Dosimetry	Biological effects of radiation – stochastic and deterministic
	Risks and benefits of radiation
	Absorbed dose, equivalent dose, effective dose, other dose indicators and their units
Management and Radiation Protection of the individual being exposed	
Special Attention Areas	Pregnancy and potential pregnancy
	Asymptomatic individuals
	Breastfeeding
	Infants and children
	Medical and biomedical research
	Health screening
	Non-medical imaging
	Carers and comforters
	High dose techniques
Justification	Justification of the individual exposure
	Use of existing appropriate radiological information
	Alternative techniques
Radiation Protection	Diagnostic reference levels
	Dose constraints
	Dose optimisation

Fundamental Physics of Radiation	
	Dose reduction devices and techniques
	Dose recording and dose audit
	General radiation protection
	Quality assurance and quality control including routine inspection and testing of equipment
	Risk communication
	Use of radiation protection devices
Statutory Requirements and Non-Statutory Regulations	
	Regulations
	Non-statutory guidance
	Local procedures and protocols
	Individual responsibilities relating to exposures
	Responsibility for radiation safety
	Clinical audit

Table 2

Diagnostic radiology, radiotherapy and nuclear medicine

All Modalities	
General	Fundamentals of radiological anatomy
	Factors affecting radiation dose
	Dosimetry
	Fundamentals of clinical evaluation
	Identification of the individual being exposed
Diagnostic radiology	
General	Principles of radiological techniques
	Production of X-rays
	Equipment selection and use
Specialised Techniques	Computed Tomography: advanced applications
	Interventional procedures
	Cone Beam Computed Tomography
	Hybrid imaging
Fundamentals of Image Acquisition etc.	Optimisation of image quality and radiation dose
	Image formats, acquisition, processing, display and storage

All Modalities	
Contrast Media	Use and preparation
	Contraindications
	Use of contrast injection systems
Radiotherapy	
General	Production of ionising radiation
	Treatment of malignant disease
	Treatment of benign disease
	Principles of external beam radiotherapy
	Principles of brachytherapy
Specialised Techniques	Intra-operative radiotherapy
	Stereotactic radiotherapy and radiosurgery
	Stereotactic ablative radiotherapy
	Proton therapy
	MR Linac therapy
Radiobiological Aspects for Radiotherapy	Fractionation
	Dose rate
	Radiosensitisation
	Target volumes
Practical Aspects for Radiotherapy	Localisation equipment selection
	Therapy equipment selection
	Verification techniques including on-treatment imaging
	Treatment planning systems
Radiation Protection Specific to Radiotherapy	Side effects – early and late
	Toxicity
	Assessment of efficacy
Nuclear Medicine	
General	Atomic structure and radioactivity
	Radioactive decay
	Principles of molecular imaging and non-imaging exposures
	Principles of molecular radiotherapy
Molecular Radiotherapy	Dose rate
	Fractionation

All Modalities	
Specialised Techniques	Radiobiology aspects
	Radiosensitisation
	Quantative imaging – advanced applications
	Hybrid imaging – advanced applications
	Selective Internal Radiation Therapy
Principles of Radiation Detection, Instrumentation and Equipment	Types of detection systems
	Optimisation of image quality and radiation dose
	Image acquisition, artefacts, processing, display and storage
Radiopharmaceuticals	Calibration
	Working practices in the radiopharmacy
	Preparation of individual doses
Radiation Protection Specific to Nuclear Medicine	Conception, pregnancy and breastfeeding
	Arrangements for radioactive individuals