

SCHEDULE 3

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

<i>Fundamental Physics of Radiation</i>	
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
<i>Management and Radiation Protection of the individual being exposed</i>	
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

Changes to legislation: There are currently no known outstanding effects for the The Ionising Radiation (Medical Exposure) Regulations 2017, Paragraph 1. (See end of Document for details)

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	<ul style="list-style-type: none"> Fundamentals of radiological anatomy Factors affecting radiation dose Dosimetry Fundamentals of clinical evaluation Identification of the individual being exposed
<i>Diagnostic radiology</i>	
General	<ul style="list-style-type: none"> Principles of radiological techniques Production of X-rays Equipment selection and use
Specialised Techniques	<ul style="list-style-type: none"> Computed Tomography: advanced applications Interventional procedures Cone Beam Computed Tomography Hybrid imaging
Fundamentals of Image Acquisition etc.	<ul style="list-style-type: none"> Optimisation of image quality and radiation dose

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

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All Modalities

	Principles of molecular radiotherapy
Molecular Radiotherapy	Dose rate
	Fractionation
	Radiobiology aspects
	Radiosensitisation
Specialised techniques	Quantitative 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

Commencement Information

II Sch. 3 para. 1 in force at 6.2.2018, see [reg. 1](#)

Changes to legislation:

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