Institute of Physics and Engineering in Medicine

Policy Statement on coverage of the Medical Physics Expert curriculum provided by national standards and training schemes in Medical Physics

1. Introduction

The Ionising Radiation (Medical Exposure) Regulations 2017 (IRMER) require that the competence of Medical Physics Experts (MPEs) is recognised by the Secretary of State. The Department of Health and Social Care have produced a curriculum against which prospective MPEs who are not on the MPE list [1] may be assessed. IPEM's Ionising Radiation Special Interest Groups (SIGs) have undertaken a review of coverage of competencies in the MPE curriculum (Appendix 1) provided by national standards and training schemes in medical physics.

2. Summary

A summary of the findings of the review is as follows

3. Table 1 (knowledge competencies)

Competencies A1-14

- These knowledge competencies, mostly at general awareness and basic understanding level, are covered by completion of either of the following:
    - IPEM or Scientist Training Programme (STP) approved MSc in medical physics.
    - Registration as a Clinical Scientist (Medical Physics) with the Health and Care Professions Council. This may be achieved by following the STP training scheme or an equivalent route to registration.

Competencies A15-17

- These knowledge competencies, mostly at detailed understanding level, require some additional knowledge over and above that gained during pre-registration training schemes. This knowledge could be obtained through routes such as formal advanced training courses, self-directed learning or knowledge gained during supervised workplace practice.
- In the case of knowledge gained during supervised workplace practice, evidence of this knowledge would be provided by expressly identifying, in the explanatory notes accompanying the practical competencies presented in Table 2, the knowledge gained whilst completing the practical competencies. These notes can then be cross-referenced to competencies A15-A17 in Table 1.
- These knowledge competencies are, however, covered fully by the Higher Specialist Scientific Training (HSST) programme in Medical Physics.

Table 2 (practical competencies)

- It is highly likely that workplace-based evidence submitted for the HSST programme in medical physics will also satisfy the practical competencies, but this will need to be assessed on an individual basis.
- Aspects of the practical competencies will be covered by the STP training scheme or an equivalent route to registration as a Clinical Scientist with HCPC. The evidence submitted is likely to be similar in nature to that of the evidence submitted for HCPC registration and in addition must demonstrate that the individual is operating at a higher level of autonomy, and is competent to deal with more complex, non-routine scenarios.

4. Conclusions

Individuals who are HCPC-registered Clinical Scientists in Medical Physics will be able to demonstrate knowledge and practical competence in parts of the RPA2000 MPE curriculum but will need to provide evidence of having developed both to a higher level.

Individuals who have successfully completed the HSST training scheme and / or have obtained entry onto the Academy for Healthcare Science Higher Specialist Scientist Register can confirm adequate knowledge and are likely to be able to confirm adequate practical competence.

References/bibliography

[1] 'List of individuals who have been entitled by an employer to act as a Medical Physics Expert in the UK' http://www.rpa2000.org.uk/wp-content/uploads/2018/11/MPE-Register-26th-November-2018.pdf

Appendix 1: Coverage of the MPE Curriculum provided by national standards and training schemes in medical physics

Table 1

A1	**Basic atomic and nuclear physics**	**BU**
A2	**Basic biology**	**BU**
A3	**Interaction of radiation with matter**	**BU**
A4	**Biological effects of radiation**	**BU**
A5	**Basis of radiation protection standards**	**BU**
A6	**ICRP principles**	**BU**
A7	**Legal and regulatory basis**	
A7a	International legislation	**GA**
A7b	National legislation and regulations which apply to medical exposures	
	IRMER	**DU**
	Other	**BU**
A7c	National legislation and regulations relating to working with ionising radiation	**GA**
A7d	Other relevant legislation	**GA**
A8	**Good Clinical/Scientific Practice**	**GA**
A9	**Liaison with other radiation protection professionals**	**BU**
A10	**Other exposures using medical radiological equipment**	**GA**
A11	**Emerging technologies**	**GA**
A12	**Diagnostic Radiology**	**GA**
A13	**Radiotherapy**	**GA**
A14	**Nuclear Medicine**	**GA**
A15	**Equipment management**	
A15a	Specification and evaluation of medical radiological equipment	**DU**
A15b	Acceptance and commissioning of medical radiological equipment	**DU**
A15c	Quality assurance	**DU**
A16	**Dosimetry**	
A16a	Dosimetric quantities	**DU**
A16b	Dose assurance	**DU**
A16c	Organ dosimetry techniques	**DU**
A16d	Determination and communication of risk to the patient or subject	**DU**
A17	**Medical exposure optimisation**	
A17a	Imaging performance required to achieve desired objective	**BU**
A17b	Technical performance and clinical applications	**DU**
A17c	Management of risks to individuals undergoing medical exposures	**DU**

Table 2

	Medical exposure regulations	
B1.1	Requirements of IRMER and practical implementation in your workplace	
B1.2	The role of the MPE	
	Medical radiological equipment management	
B2.1	Specification and evaluation	
B2.2	Acceptance and commissioning	
B2.3	Quality assurance	
	Dosimetry	
B3.1	Dosimetric quantities	
B3.2	Dose assurance	
B3.3	Organ dosimetry techniques	
B3.4	Determination and communication of risk of detriment to individuals	
	Medical exposure optimisation	
B4.1	Imaging performance required to achieve desired imaging, diagnostic or treatment objective	
B4.2	Technical performance and clinical applications	
B4.3	Management of risks to individuals undergoing medical exposures	

BU – basic understanding; GA – general awareness; DU – detailed understanding

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Date first published: 14th June 2019 Date reviewed: Next review date: June 2021

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