Medical physics experts (MPE) recognition scheme statement

Introduction

The Basic Safety Standards Directive (BSSD)\(^1\) requires Member States to ensure that arrangements are made for the establishment of education, training and retraining to allow the recognition of Medical Physics Experts (MPEs).

This statement is issued by the Department of Health, as the competent authority for medical exposures, to set out how it will comply with its legal responsibilities relating to MPEs as required by the BSSD.

The statement provides information on the Department of Health’s expectations of MPEs and how a UK wide scheme will be implemented for the recognition of MPEs.

There is already a requirement for persons acting as MPEs to be entitled to act in that role by employers responsible for carrying out medical exposures. The new arrangements will formalise the competent authority role and recognition of MPEs by that authority.

It is important to note, however, that recognising an individual as being competent to act as a MPE does not in itself mean that that individual is suitable for any particular MPE role. Suitability to be appointed as a MPE is a matter for the employer responsible for undertaking the medical exposures for which MPE support is required.

Background

The requirement for Medical Physics Experts

Medical Physics Experts play a vital role in the optimisation of both individual and collective dose received as a result of medical exposures. The BSSD requires MPEs to be appropriately educated and trained and to be recognised by the relevant competent authority.

Department of Health, as the competent authority for medical exposures, has written this statement to support the establishment of a formal system for the recognition of MPEs.

This statement will be used as the basis for defining the competency and ongoing recognition requirements for MPEs which will allow the development of an assessment and recognition scheme by an Assessing Body.

Role of the Medical Physics Expert

A Medical Physics Expert is defined in the BSSD as follows:
‘an individual, or, if provided for in national legislation, a group of individuals having the knowledge, training and experience to act or give advice on matters relating to radiation physics applied to medical exposure, whose competence in this respect is recognised by the competent authority.’

The BSSD requires MPEs to be appropriately involved in all medical radiological practices. The level of involvement being commensurate with the radiological risk posed by the practice. In particular:

In radiotherapeutic practices other than standardised therapeutic nuclear medicine practices, a medical physics expert shall be closely involved;

in standardised therapeutical nuclear medicine practices as well as in radiodiagnostic and interventional radiological practices involving high doses as referred to in point (c) of Article 61(1), a medical physics expert shall be involved;

for other medical radiological practices not covered by points (a) and (b), a medical physics expert shall be involved as appropriate for consultation and advice on matters relating to radiation protection concerning the medical exposure.

Article 61(1) point (c) notes that medical exposures involving high doses might occur in interventional radiology, nuclear medicine, computed tomography or radiotherapy.

Article 83 sets out the role of the MPE and requires them to:

- take responsibility for dosimetry, including physical measurements for the evaluation of the dose delivered to the patient and other individuals subject to medical exposure;
- give advice on medical radiological equipment; and
- contribute, in particular, to
  - optimisation of the radiation protection of patients and other individuals subject to medical exposures, including the application and use of diagnostic reference levels
  - the definition and performance of quality assurance of medical radiological equipment
  - acceptance testing of medical radiological equipment
  - the preparation of technical specifications for medical radiological equipment and installation design
  - the surveillance of medical radiological installations
  - the analysis of events involving, or potentially involving, accidental or unintended medical exposures
  - the selection of equipment required to perform radiation protection measurements
  - the training of practitioners and other staff in relevant aspects of radiation protection

In some of these areas, it is recognised that liaison with the Radiation Protection Adviser and/or Radioactive Waste Adviser will be required.
Introduction

All employers who carry out medical exposures must appoint a MPE. The BSSD allows for the MPE role to be discharged by a group of individuals, a MPE Body, however, this statement is intended only for individuals.

The Department of Health, as the Competent Authority, intends to recognise MPEs through evidence of knowledge, training and competence in the matters contained in Article 83 of the BSSD. Assessment of this evidence will be carried out by an Assessing Body appointed by the Department of Health for this purpose.

The arrangements for those currently acting as MPEs under the Ionising Radiation (Medical Exposure) Regulations (2000) are described below in the section on transition arrangements.

Medical Physics Experts

The Medical Physics Expert role in the UK under the current medical exposures regulation (The Ionising Radiation (Medical Exposure) Regulations 2000 plus amendments) is slightly different to the role outlined in the BSSD, due to UK legislation existing before the BSSD was implemented.

It is the intention of the Department of Health that the replacement medical exposure regulations will explicitly widen the remit of the MPE to include an advisory role with regard to general compliance with those regulations.

Demonstration of competence

In order to gain recognition from the Department of Health, or any authorised Assessing Body, an individual must demonstrate competence in the following core elements:

- dosimetry and dose calculation for medical exposures
- optimisation of dose associated with medical exposures
- analysis of accidental and unintended exposures and provision of advice following such an exposure
- commissioning, acceptance testing and routine quality assurance testing of medical radiological equipment
- medical radiological equipment specification
- detailed understanding of the requirements of UK medical exposure regulation and its practical application
- effective communication with management, other radiation professionals and members of clinical teams
The Department of Health has developed, and will maintain, a MPE syllabus incorporating these competency requirements.

The criteria to demonstrate competence will be agreed between the Department of Health, as the competent authority, and any authorised Assessing Body. A formal Working Group will be established for a recognition scheme, which will include representatives from the Department of Health, the Assessing Body and relevant professional bodies, for example, the Institute of Physics and Engineering in Medicine (IPEM), the Society for Radiological Protection (SRP) and the Association of University Radiation Protection Officers (AURPO).

It is expected that submission of portfolio type evidence will be required for new applicants, although completion of recognised national training schemes which include a practical competency aspect may be accepted in lieu of some or all of that submission.

The nature of the evidence an individual will be required to present will come from their own training and experience and will therefore vary significantly in detail according to the area in which they specialise. However all the evidence will need to refer back to the core elements listed above. The assessment process will not address the suitability of an applicant to work as an MPE in any specific field. It is also accepted that for some requirements, for example analysis of accidental exposures, the applicant may have limited workplace experience. In such instances, simulated evidence will be considered.

**Administrative arrangements**

The Department of Health will appoint a suitable Assessing Body to assess the competence of individuals wanting to act as MPEs.

The arrangements for the recognition of new MPEs will be in place by 6 February 2018. All persons wishing to be recognised as MPEs for the first time after 31 December 2017 will be required to apply for recognition through an Assessing Body (see below).

**Register of Medical Physics Experts**

The Assessing Body for MPEs will maintain a register of those persons who have demonstrated the necessary core competency required to act as a MPE.

The register will include:

- Individual’s full name
- Date of first inclusion on the register
- A unique identifier (e.g. certificate number)

The Assessing Body, on behalf of Department of Health, will also hold contact information for all certificated MPEs.

Certificates of competence to act as a MPE will be issued by the Assessing Body. These will be valid for a finite period and in order to remain on the register after the date indicated...
on their certificate, individuals will need to meet the Department of Health’s requirements for continued registration. The specific arrangements relating to re-certification will be agreed between the Assessing Body and the Department of Health. Information will be provided to all certificated MPEs when it becomes available.

**Existing MPEs (2017)**

The Department of Health has tasked RPA2000 (an Assessing Body approved to assess the competence of RPAs and RWAs) with generating a list of individuals who have been authorised to act as a MPEs. All existing MPEs, who are entitled to act in that capacity by an employer under IRMER (2000), will need to apply to join that list before 31 December 2017. The information indicated on the accompanying application form must be provided to the Assessing Body. Individuals who are not able to meet the criteria set out on the accompanying application form will need to apply to an Assessing Body in order to be recognised as having the basic competency required to act as a MPE.

All individuals placed on the MPE list are expected to keep records of their ongoing training and professional development.

**Transitional arrangements**

The recognition arrangements detailed above will result in the formation of a list for existing MPEs and a register for new MPEs following assessment. The details explaining how MPEs will transition from the list to the register will be released in due course.

**Enforcement**

The requirement for employers to appoint suitably qualified and experienced recognised MPEs will be included in the replacement medical exposures regulations, which will come into force on 6 February 2018.

Compliance with the requirement will be monitored by the appropriate enforcing authority.

**Glossary**

Assessing Body An organisation independent from the Department of Health that has been approved by the Department of Health to assess the competence of individuals to act as MPEs.

Competence The combination of knowledge and experience that equips an individual to provide expert advice, for example, on dose optimisation with regard to medical exposures.

MPE Body A group of individuals who can collectively demonstrate the competencies required to perform the MPE role.
Council Directive 2013/59/EURATOM laying down basic safety standards for the protection against the dangers arising from exposure to ionising radiation